

AUDIO-VIDEO SURROUND RECEIVER

KR-V990D/V9080

SERVICE MANUAL

KENWOOD

© 1996-3/B51-5106-00 (K/K) 3794

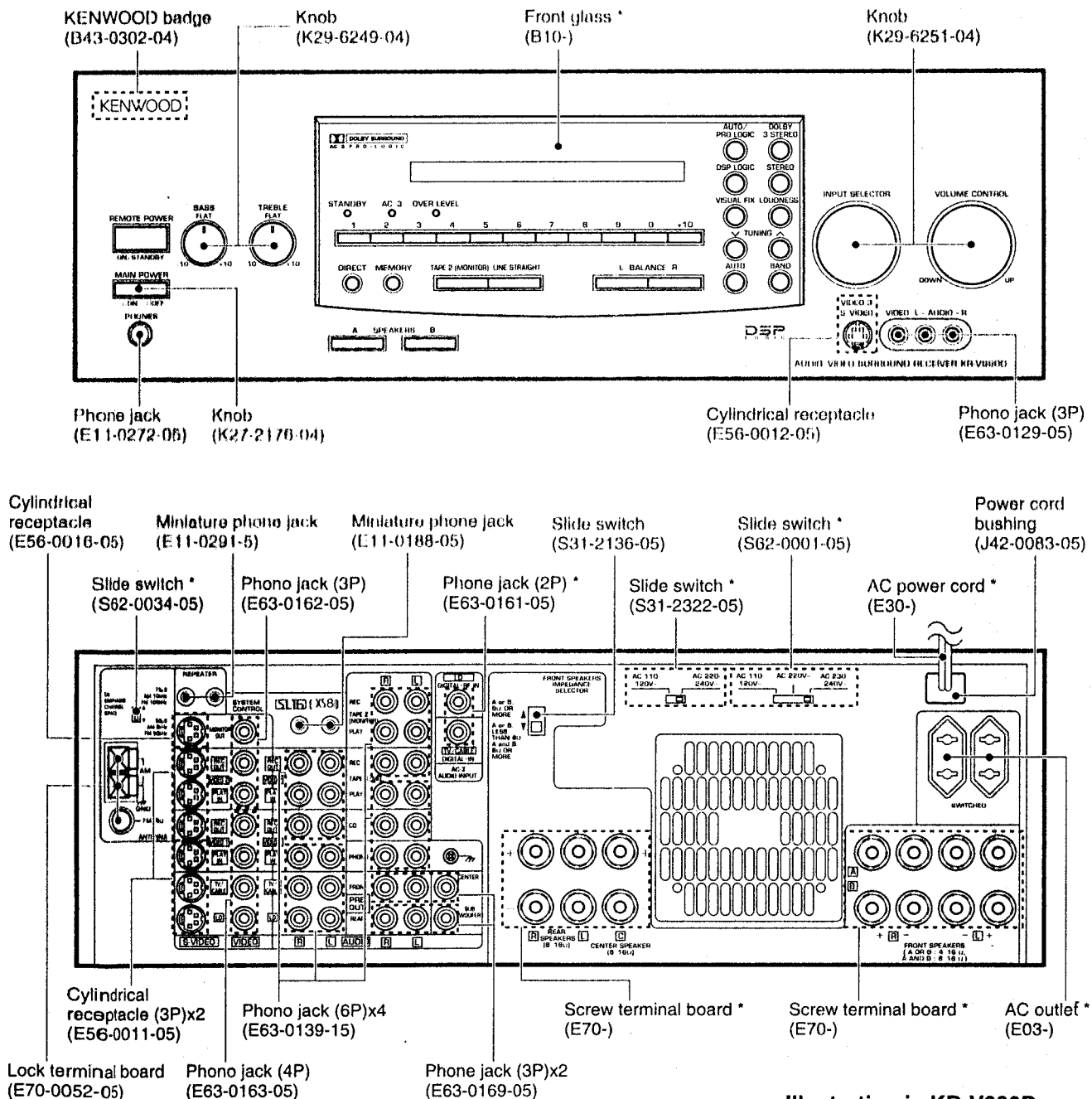


Illustration is KR-V990D.

* Refer to parts list on page 89.

PRECAUTIONS FOR REPAIR

- Can not use jig KSJ-0816 for the transmission frequency $455 \pm 2.2\text{kHz}$ of remote controller.
- For the serial test mode of the **CIRCUIT DESCRIPTION**, see Service Manual (B51-5162-00) of KR-V7080/V8080.

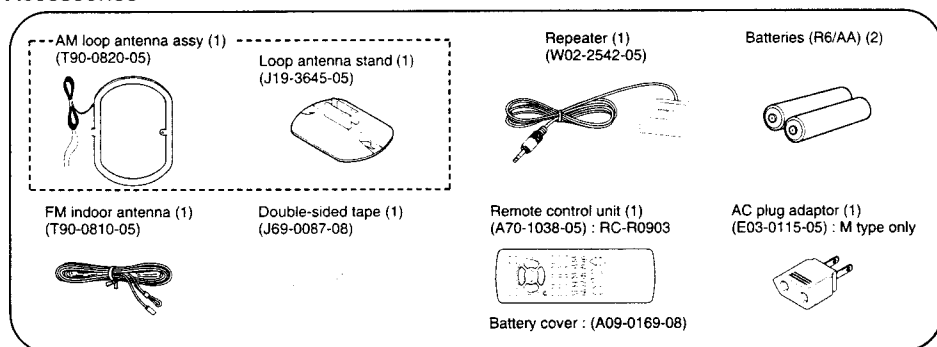
KR-V990D/V9080

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Accessories



SWITCHING FROM [XS8] TO [SL16]

You can easily change the system control mode with the following operation. Do this operation after completing all connections.

Switching to [SL16] : Hold down the AUTO key and switch the MAIN POWER key from OFF to ON.
Switching back to [XS8] : Hold down the BAND key and switch the MAIN POWER key from OFF to ON.

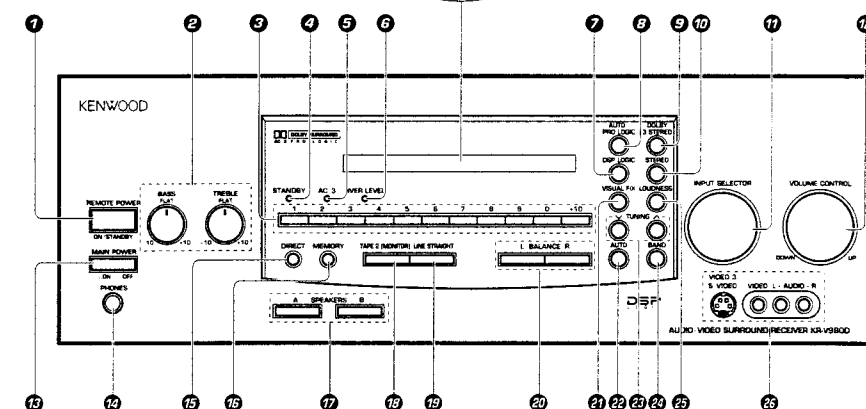
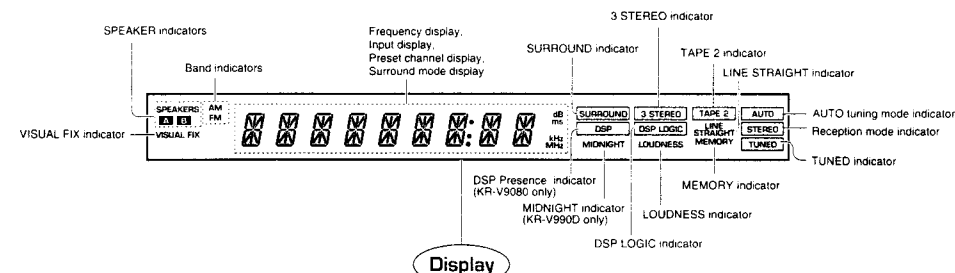
• This operation will not affect items stored in the memory.

Note : The system control mode will revert to [XS8] if the unit is not turned on for three consecutive days. If you would like to make the unit completely (and permanently) [SL16] compatible, please consult your nearest retailer or the Kenwood Marketing Department.

μ-COM (hard) match : Can be set 8pin of main μ-COM (UPD78058GC-XXX).

KR-V990D/V9080

CONTROLS



- 1 REMOTE POWER key**
Use to switch the power ON/STANDBY when the MAIN POWER is turned ON.
- 2 Tone Control knobs**
- 3 Numeric keys**
- 4 STANDBY indicator**
- 5 AC-3 indicator (KR-V990D only)**
Lights when an AC-3 format signal is being played back.
- 6 OVER LEVEL indicator (KR-V990D only)**
Lights when the level of the signal being input is too high.
- 7 DSP LOGIC key (KR-V990D)**
DSP/DSP LOGIC key (KR-V9080)
Use to turn on, or switch, the DSP LOGIC mode.
- 8 AUTO/PRO LOGIC key (KR-V990D)**
DOLBY PRO LOGIC key (KR-V9080)
Use to turn on, or switch, the DOLBY SURROUND mode.
- 9 SPEAKERS A/B keys**
Use to turn the speakers ON/OFF.
- 10 TAPE 2[MONITOR] key**
Use to monitor a recording.
- 11 DOLBY 3 STEREO key**
Use to turn on the DOLBY 3 STEREO mode.
- 12 STEREO key**
Use to cancel the surround mode.
- 13 INPUT SELECTOR knob**
Use to select the input sources.
- 14 VOLUME CONTROL knob**
- 15 MAIN POWER key**
Use to turn the POWER ON/OFF.
- 16 PHONES jack**
Use for headphone listening.
- 17 DIRECT key**
Use to tune radio stations directly by numerical input.
- 18 MEMORY key**
Use to store radio stations in the preset memory.
- 19 LINE STRAIGHT key**
Use to listen with high quality sound.
- 20 BALANCE keys**
Use to adjust the volume balance between left and right.
- 21 VISUAL FIX key**
Use to lock on to the current video input.
- 22 AUTO key**
Use to select the auto tuning mode.
- 23 TUNING keys**
Use to tune in radio broadcasts.
- 24 BAND key**
Use to select the broadcast band.
- 25 LOUDNESS key**
Use to emphasize deep base sounds.
- 26 VIDEO-3 terminals**

REMOTE POWER switch STANDBY mode

When the receiver's power cord is plugged in to an AC outlet and the MAIN POWER key is turned ON, the STANDBY indicator will remain lit, regardless of the ON/STANDBY setting of the REMOTE POWER switch. This indicates that a small amount of current is being supplied to the receiver in order to back up the memory contents. This is called the Standby mode. When the standby indicator is lit, the receiver can be switched ON/STANDBY from the remote control.

KR-V990D/V9080

REMOTE CONTROL OPERATION

The remote control unit provided with unit functions in the following two modes so that it can be used to control other KENWOOD system components as well as video components from other manufacturers.

KENWOOD component control mode This mode is used to control the KENWOOD source components including cassette decks and a CD player. (The controlled components must be connected to this unit through system control cords.)

Video component control mode This mode allows to control the basic operations of video components from KENWOOD as well as other manufacturers.

Some of the keys act in different ways depending on the modes described above. Therefore, be sure to adjust the required mode before pressing these keys.

MACRO 1, MACRO 2 keys
Use to operate several components automatically (MACRO PLAY).

In Graphical User Interface (GUI) mode, use to move the pointer.
In other modes, use to operate the various components.

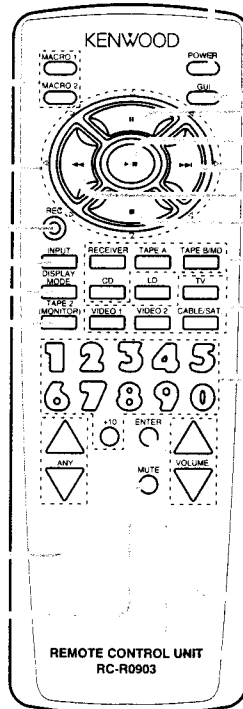
INPUT key
Use to select an input source.

DISPLAY MODE key
Use to switch the display mode.

TAPE 2(MONITOR) key
Use to monitor a recording.

MUTE key
Use to temporarily mute the sound.

MODEL: RC-R0903
Infrared Ray System
Transmission frequency : 455 ± 25kHz



GUI key
Use to activate the Graphical User Interface mode.

Component control selection keys
Activate the Kenwood operation mode, and select the component to be remote controlled.

Component control selection keys
Activate the Video operation mode, and select the component to be remote controlled.

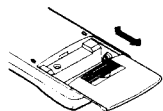
Numeric keys / +10 key

VOLUME key
Use to adjust the volume.

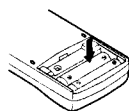
ENTER key
Use when entering TV channels.

Loading batteries

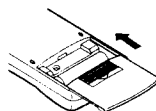
① Remove the cover.



② Insert batteries.



③ Close the cover.



• Insert two AA-size (R6 / SUM-3) batteries as indicated by the polarity markings.

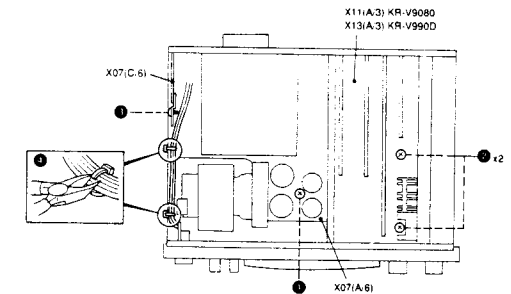
KR-V990D/V9080

DISASSEMBLY FOR REPAIR

1. How to remove the Power transistor

Illust. 1

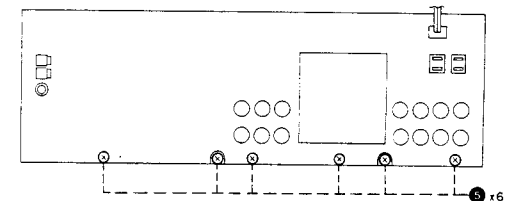
1. Remove the one screw ①, two screws ② and the one screw ③ on the Mounting hardware.
2. Cut the two Wire bands ④ with the Cutting nipper, etc.



Illust. 1

Illust. 2

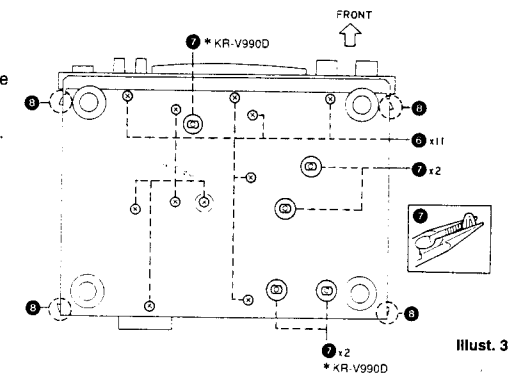
3. Remove the six screws ⑤ on the Rear panel.



Illust. 2

Illust. 3

4. Remove the eleven screws ⑥ at the bottom.
5. Remove the Unit holders ⑦ while pushing them with the Pliers, etc.
6. Remove the Bottom plate while pushing the four clicks ⑧.



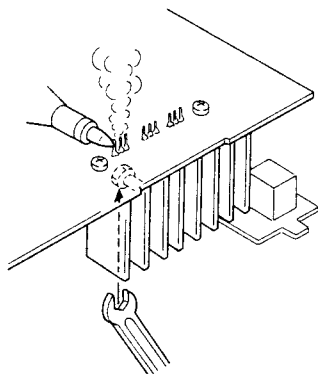
Illust. 3

KR-V990D/V9080

DISASSEMBLY FOR REPAIR

Illust. 4

7. Remove the Power transistors with the Soldering iron.
8. Remove the screws on the Power transistors with the Hexagon wrench.

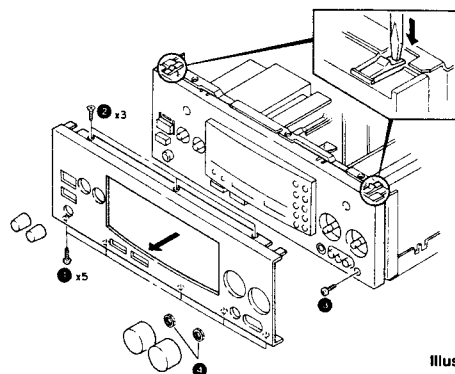


Illust. 4

2. How to remove the Display unit (X14-, A/6)

Illust. 5

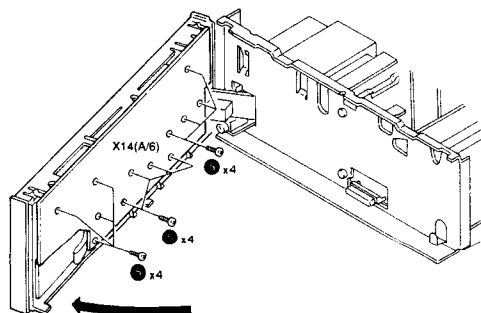
1. Remove the five screws ① at the bottom and the three screws ② at the top.
2. Remove the following Knobs; VOLUME CONTROL, INPUT SELECTOR, TREBLE, BASS.
3. Remove the Front panel while pushing the clicks.
4. Remove the one screw ③, then remove the Sub panel.



Illust. 5

Illust. 5 / Illust. 6

5. Remove the two Hexagon nuts ④, the twelve screws ⑤, then remove the Display unit (X14-, A/6).

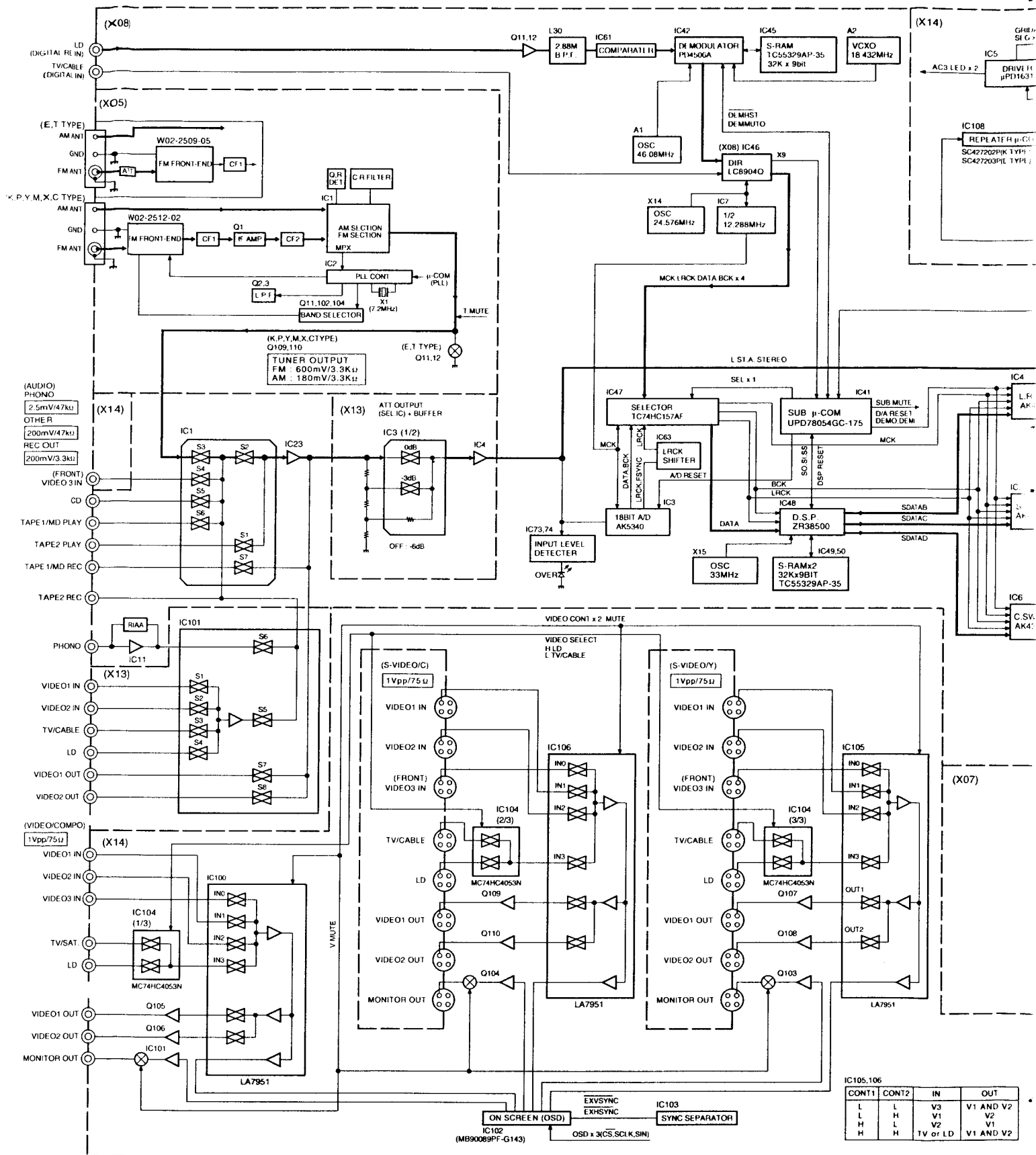


Illust. 6

KR-V990D/V9080

BLOCK DIAG

KR-V990D



DIAGRAM



BLOCK DIA

(X05)

(K,P,Y,M,X,C TYPE E)

AM ANT

GND

FM ANT

W02-2512-02

CF1

Q1

IF AMP

CF2

Q2,3

L.P.F.

Q11,102,104

BAND SELECTOR

Q109,110

TUNER OUTPUT

FM : 600mV/3.3K Ω

AM : 180mV/3.3K Ω

T.MUTE

(K,P,Y,M,X,C TYPE)

Q109,110

TUNER OUTPUT

FM : 600mV/3.3K Ω

AM : 180mV/3.3K Ω

(X14)

(AUDIO) PHONO

2.5mV/47K Ω

OTHER

200mV/47K Ω

REC OUT

200mV/3.3K Ω

(FRONT) VIDEO 3 IN

CD

TAPE1/MD PLAY

TAPE2 PLAY

TAPE1/MD REC

TAPE2 REC

PHONO

IC319

IC1

S1

S2

S3

S4

S5

S6

S7

S8

VIDEO1 IN

VIDEO2 IN

TV/CABLE

LD

VIDEO1 OUT

VIDEO2 OUT

(VIDEO/COMPO)

1Vpp/75 Ω

VIDEO1 IN

VIDEO2 IN

VIDEO3 IN

TV/CABLE

LD

VIDEO1 OUT

VIDEO2 OUT

MONITOR OUT

IC100

IC104 (1/3)

MC74HC4053N

Q105

Q106

IC101

LA7951

V MUTE

(X14)

VIDEO CONT x 2 MUTE

VIDEO SELECT

H LD

L TV/CABLE

(S-VIDEO/C)

1Vpp/75 Ω

VIDEO1 IN

VIDEO2 IN

(FRONT) VIDEO3 IN

TV/CABLE

LD

VIDEO1 OUT

VIDEO2 OUT

MONITOR OUT

IC104 (2/3)

MC74HC4053N

Q109

Q110

Q104

LA7951

(S-VIDEO/Y)

1Vpp/75 Ω

VIDEO1 IN

VIDEO2 IN

(FRONT) VIDEO3 IN

TV/CABLE

LD

VIDEO1 OUT

VIDEO2 OUT

MONITOR OUT

IC104 (3/3)

MC74HC4053N

Q107

Q108

Q103

LA7951

ON SCREEN (OSD)

IC102 (MB90089PF-G143)

EXVSYS

EXHSYS

IC103

SYNC SEPARATOR

OSD x 3(CS.SCLK.SIN)

(X11)

GRIDx11

SEG x16

ED1

FL DISPLAY

AC3 LED x 2

IC5

DRIVER

μ PD16311

KEY SCANx5

RETURNx5

KEY MATRIX

IC108

REPEATER μ -COM

SC427202P(K, E TYPE) or SC427203P(E TYPE)

O REPEATER OUT

O REPEATER OUT

MAIN/VR INPUT SEL

ROTARY ENCODER

A1

REMOTE SENSOR

STAND BY LED

TEST TONE

IC314 (1/3)

IC317 (1/4)

SIGNAL

20K

L.P.F.

IC301

IC316

S RAM

FROM Rch

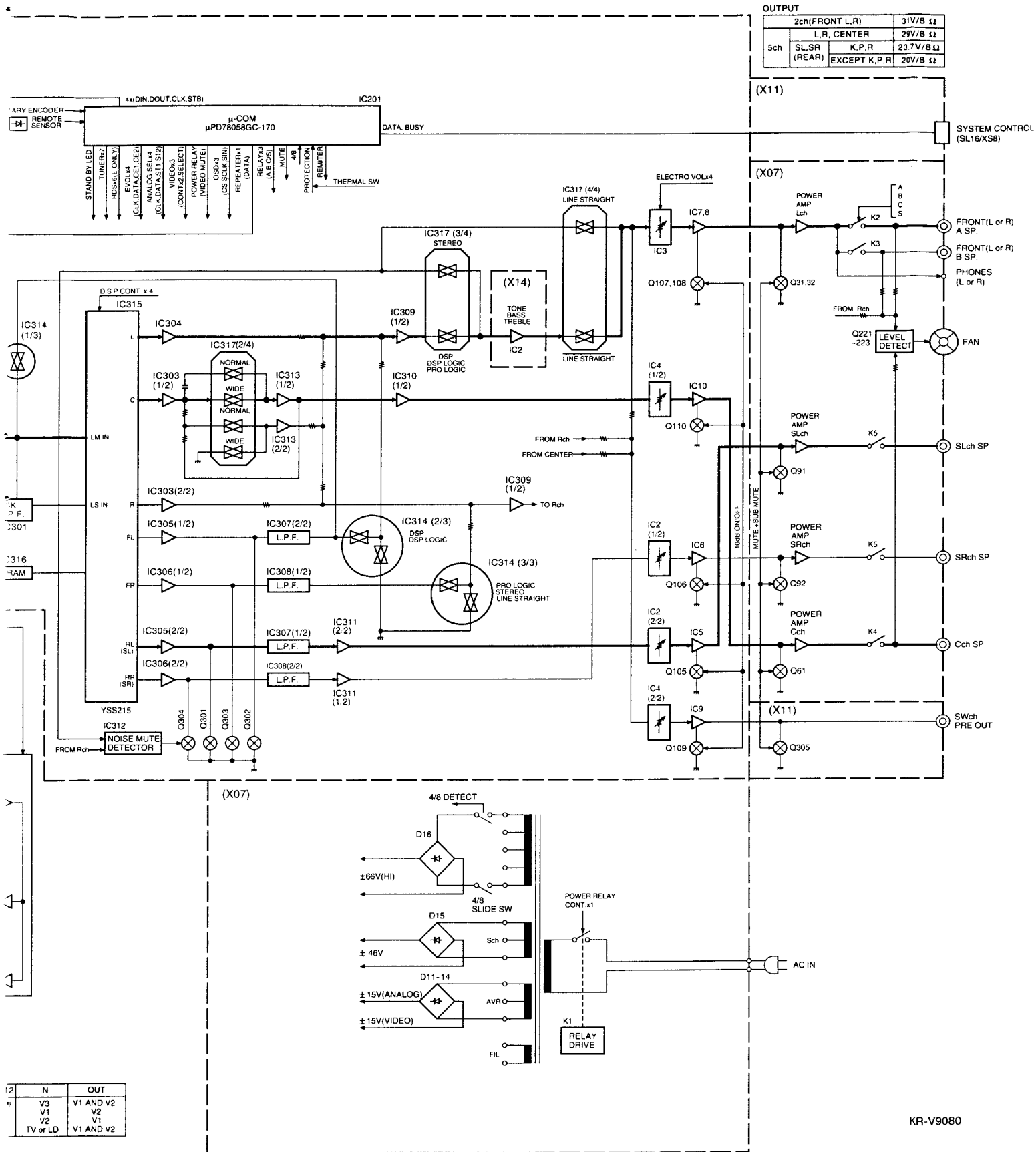
IC105,106

CONT1	CONT2	N	OUT
L	L	V3	V1 ANI
L	H	V1	V:
H	L	V2	V1 ANI
H	H	TV or LD	V1 ANI

CONT1	CONT2	N	OU
L	L	V3	V1 AN
L	H	V1	V2
H	L	V2	V3
H	H	TV or LD	V1 AN

KR-V990D/V9080

CK DIAGRAM



KR-V990D/V908

CIRCUIT DESCRIPTION

1. Function

1-1. XS8/SL16 system changeover

Implements an additional operation by the system in order to shift a system operated by XS8 to SL16.

1-1-1. SL16

Easy operation one way amplifier and receiver. Other source devices are compatible with one-way and two-way easy operation. Operation is 16-bit. Operation is two way and compatible with operating mode display. Also, adding MD to input selector makes it compatible with easy operation. Apart from TUNER, source devices are operating mode display compatible and input selector MD compatible. Since it is not possible for the amplifier and receiver to be always compatible with operating mode displays, they are only input selector MD compatible and SL16 compatible.

1-1-2. Addition of a selector source

Adding a system operation adds selector sources MD and controls MD system operation.

(1) Selector source switching

MD are switched as TAPE1 background modes separately from the normal selector functions.

- Switch the selector source by holding down the AUTO panel key for at least two seconds.

TAPE1'MD

(If another key is entered while the key is being entered, the key input is set to off and the key is made ineffective.)

When a MD is used, the MD is connected to the RCA Pin of TAPE1.

- The operation of the system controls only the currently selected source and as no control whatsoever over the operation of the side which is not selected. For example, while MD is selected, even if the "Deck B Play" serial code is received, MD will remain selected without switching from MD to TAPE1.

(2) Settings during microprocessor backup or initialization

- During microprocessor initialization the selector is set to TAPE1. The current selector mode (TAPE1/MD) is maintained except when the backup is disrupted.

(3) Other items be noted

- This selector switching function has been developed in accordance with new serial codes. Therefore, if XS8 is used, since there is no code for MD, the selector source function will not work if the 8/16-bit serial mode is 8-bit. It works only in 16-bit mode. Also, if serial mode has been switched from 16-bit to 8-bit when MD are being selected, it will force a switch to TAPE1.

1-2. GUI (Graphic User Interface) function

This function enables the user to control each unit from the screen by combining the OSD-IC (On-Screen Display-IC) with a split (arrow on the screen) and the remote controller with a direction key that moves a split.

1-3. OSD (On Screen Display) display by new 16-bit serial communication

In a new 16-bit system, the current state of other models (CD deck, etc.) that communicate data in series can be displayed on the OSD screen.

1-4. Repeater function

This function enables the units (television, video, etc.) of other companies to be controlled using remote control code libraries and external remote control output units in the world that the UEI company (U.S.A.) has.

1-5. Macro play

This function enables the user to continuously output the preset remote control code. (Two channels)

1-6. Outline of AC-3 (KR-V990D)

1-6-1. Introduction

The sound in major motion pictures such as "Forest Gump" is recorded on film with AC-3, a highly efficient coding system developed by the Dolby Corporation called Dolby SR-D. To be precise, the sound on these movies is recorded on both a 4-channel Dolby optical track and a 5.1-channel Dolby SR-D digital track. Up to now, when a motion picture is recorded on video cassette, laser disc player, etc., the optically recorded 4-channel track has been matrix encoded to two channels and recorded on the video cassette or laser disc. On playback the channels were passed through a decoder called Pro Logic which restored the original four channels for surround playback.

CIRCUIT DESCRIPTION



Figure 1 : Channel configuration

With AC-3, the 5.1-channel SR-D track is recorded to laser disc without change (actually the bit rate is slightly altered) and the AC-3 decoder restores the original 5.1-channels. The important factor here is that with AC-3, the original channel conditions are not changed by any transmission circuit. In other words, even with a directional booster circuit, the best inter-channel separation obtainable with Pro Logic was about 30 dB but with AC-3, the original separation can be reproduced without change. AC-3 is not only for motion pictures. It is scheduled to be available for use with the currently topical DVD (SD standard) and it is said that it can also be used with a variety of other media.

1-6-2. Comparison with Other Types

Table shows a comparison with the currently topical MD and DCC bit compression systems.

System	PASC	ATRAC	AC-3
Number of channels	2	2	≤3+2+0.1
Bit rate	384kbps	256kbps	384kbps
Processing Type	Sub-band	Transform	Transform
Application	DCC	MD	CATC/HDTV

Table 1 : High efficient digital audio coders for general use

AC-3 uses adaptive transform coding which is closer to MD's ATRAC than it is to the PASC used by digital compact cassettes. Even here, their greatest feature is that they are multi-channel based. That is to say, if we use appropriate words, it means that the bit allocation conforms to the number of channels. It means that if the source has two channels, compression in respect of those two channels is applied not independently but as if they were one channel. In other words, if at an time there is more information on one channel than on the other channel, more bits are allocated to the channel with more information and less bits to the other channel. In total, the bit rate is held at a certain fixed level. This is given by the number of source channels up to a maximum of 5.1-channels. This is called global bit allocation and the most important feature of AC-3. Despite AC-3 being multi-channel, this enables a low bit rate to be achieved, but if the signal conditions are such that processing at the prescribed bit rate is not possible, the high frequency component only is separated into an envelope component and a carrier component and the envelope data is coded with great accuracy. This is based on the psychological nature of sound perceived from the envelope derived from the signal itself. positioned at the high end of the human bearing system.

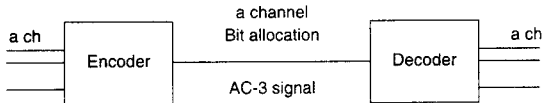


Figure 2 : Bit allocation complies with number of channels

1-6-3. AC-3 Performance

AC-3 is capable of compressed transmissions up to a maximum of 24 bits but at present most actual transmissions seem to be 16-bit compressed transmissions. No formal specifications have been released yet but the following representative specifications have been extracted from data issued by the Dolby Corporation.

CIRCUIT DESCRIPTION

Frequency characteristics L, C, R, SL, SR ch	: 20~20 kHz ± 0.5 dB (−3 dB : 3 Hz, 20.3 kHz)
LFE ch	: 20~120 Hz ± 0.5 dB (−3 dB : 3 Hz, 121 Hz)
THD	: 0.1% or less @ 1 kHz
Dynamic range	: 120 dB or more
Separation	: 90 dB or more
Sampling frequency	: 48, 44.1, 32 kHz
Quantification	: 16, 18, 20, 24 bits/sample
Bit rate	: 32 kbps ~ 640 kbps

1-6-4. AC-3 Features

AC-3 has a number of interesting features other than global bit allocation. These are shown below.

(1) Dynamic Range Control

People watching a movie at home late at night may wish to reduce the sound volume when there is an explosion scene, for instance. But they want a level at which they can listen to dialog. To satisfy these conflicting demands, AC-3 is equipped with two functions called dynamic range control and dialog normalization. These are joined by two modes, "Line-out mode" and "RF mode". The first has comparatively little compression and the extent to which it is applied is selectable by the user. The second applies strong compression and has no provision for user selection. Since it changes the gain setting, a gain shift of +11 dB occurs. Since AC-3 holds in its bit stream the information on the dB count of the dialog level when the signal was recorded, this information can also be used to adjust the electronic volume and set the playback level automatically.

(2) Output Configurations

It is stipulated that products which incorporate AC-3 decoders must have the following two configurations.

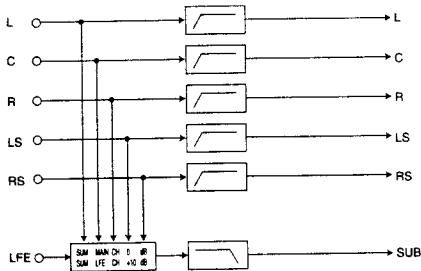


Figure 3 : Output configuration 1

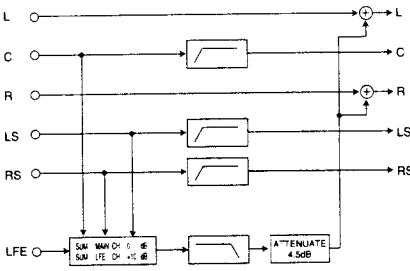


Figure 4 : Output configuration 2

As we can see from Figures 3 and 4, it is not the low frequency effect (LFE) channel alone which is output to the sub-woofer. It is mixed with the low register components of the other channels and output to the sub-woofer. In effect, this LFE channel was conceived originally to supply independent bass sound from 70 mm movie film to a sub-woofer behind the screen. Consequently, base signals appear on the LFE channel only when there are earth-shaking base notes from scenes such as explosions or earthquakes. In effect, it can be considered to be a channel which serves to preserve the bass sounds. This channel is probably called a 0.1 channel because it handles only a band of low frequencies which seldom appear. In configuration 1, all the speakers are small and all contribute base sounds to a sub-woofer. Configuration 2 is a case where the left and right speakers are large, there is not sub-woofer, and the bass notes are handled by the channels with left and right type speakers. Other than these, a configuration 3 has been stipulated as an option in which the speakers other than the center speaker are large. (These output configurations have not been formalized. They are liable to be changed.)

(3) Down-Mixing

Concerning 5.1-channel audio, since not all users will use a 5.1-channel (that is a 6-channel) system for playback, it is extremely convenient to provide for 2-channel stereo or monaural playback. The AC-3 decoder system has a mode which is used when the system is being set up, to enter the number of speakers which the user has. In accordance with this information, the DSP automatically down-mixes the 5.1-channels into the channels which can be played back. Also, since normal tape output is 2-channel, this down-mixing is essential for outputting a 5.1-channel source. However, at the same

CIRCUIT DESCRIPTION

time, it is inconvenient for 5.1-channel playback. For this reason, the use of 2-channel analog input is recommended at such times. Therefore, when connecting the signal lead from the source device to a product which incorporates the AC-3 decoder, it is essential to have analog and digital cables as well as a RF cable which can transmit the AC-3 bit stream. Down-mixing is also required when listening to 5.1-channel sound through headphones but then it is not possible to have surround playback. This inconvenience would disappear if a DSP engine with the power to handle 5.1-channel playback and down-mixing at the same time could be achieved but this would require an extremely fast DSP IC. Figure 5 shows the configuration of a laser disc player. Existing laser discs have the same audio signal recorded on a 2-channel analog FM track and a digital track which has the same format as a 16-bit compact disc. An AC-3 compatible laser disc uses the right channel of the analog FM track to record the AC-3 bit stream signal. Therefore, when the analog track is played back, a buzzing noise is heard from the right channel. But nearly all laser disc players which are being sold now will select the digital track if one is present, do a DA conversion and send out the analog output, so there is no problem with hearing noise.

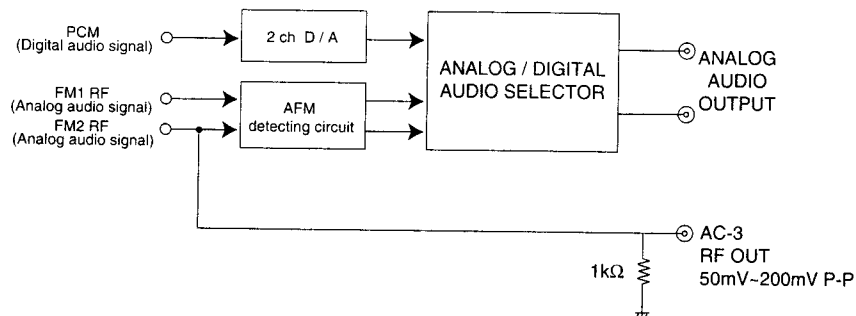


Figure 5 : Basic configuration of a laser disc player

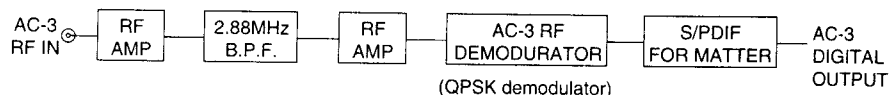


Figure 6 : Essential block for LD side

Since the AC-3 bit stream is designed to be mounted in the IEC-958 S/PDIF format, it should really be output as a bit stream in the digital output but the demodulator IC to do this is still expensive and, ostensibly to avoid high cost in LD players, it is output as a RF signal from the LD player. The RF output from the LD player will probably disappear when mass production makes this demodulator IC cheaper.

(4) Bit Stream Data

The AC-3 synchronization frame sequence is as shown in the diagram below.

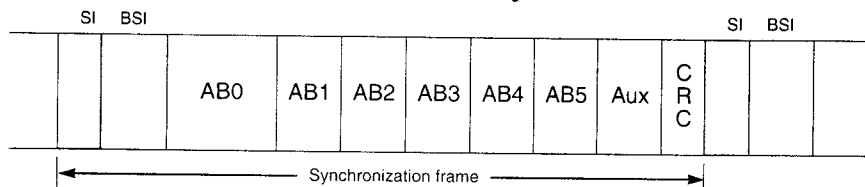


Figure 7 : AC-3 synchronization frame

CIRCUIT DESCRIPTION

Various data other than audio can enter into the BSI. Here we pick up and describe some characteristic features.

- Bit stream mode, the main service, has a three bit code to distinguish between quasi-services, apart from dialog and commentaries, to notify those with impaired sight and hearing or to give warning of an emergency.
- Audio coding mode, a 3-bit code, contains code to identify the channel which a particular signal is occupying.
- Bit stream data can carry an 8-bit language code to identify the languages of 128 world countries. By looking at this data, it is possible to know which language is being used for that AC-3 signal. DVD (SD standard) allows up to 8 languages to be entered on a disc at the same time. However, playback is limited to one language at a time. Only one language may be entered at one time on a laser disc.
- 2-bit data giving the size of the mixing room which was used for final mixing.
- It is also possible to enter data to tell whether a bit stream is original or copied from another bit stream (a 1-bit code identifying whether a signal has been Dolby surround encoded).

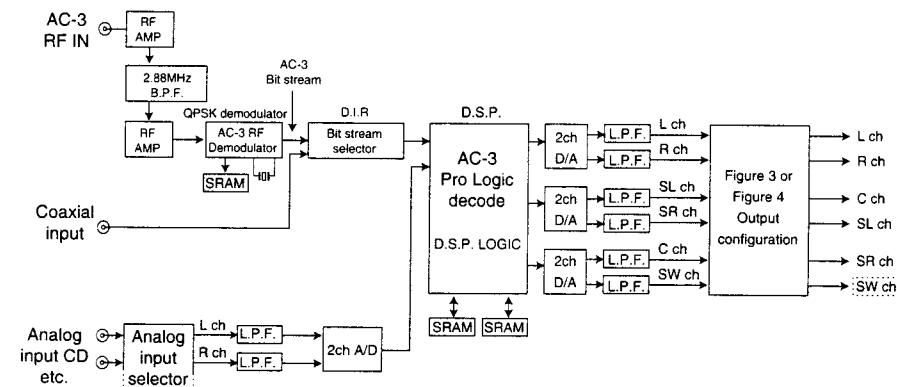


Figure 8 : KR-V990D AC-3 related block diagram

KR-V990D/V9080

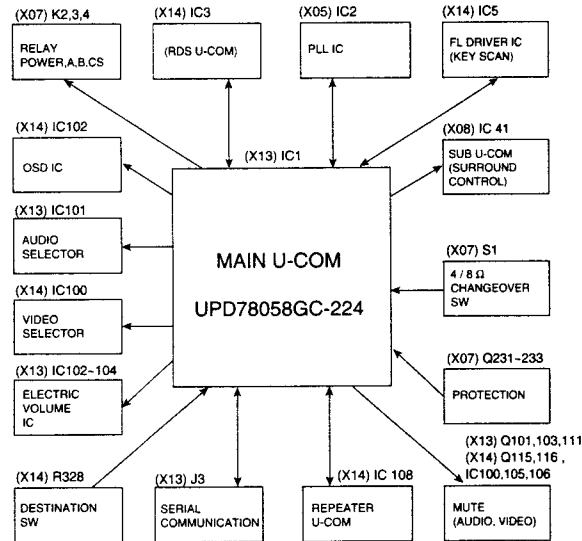
CIRCUIT DESCRIPTION

2. Main microprocessor KR-V990D: UPD78058GC-224(X13:IC1)

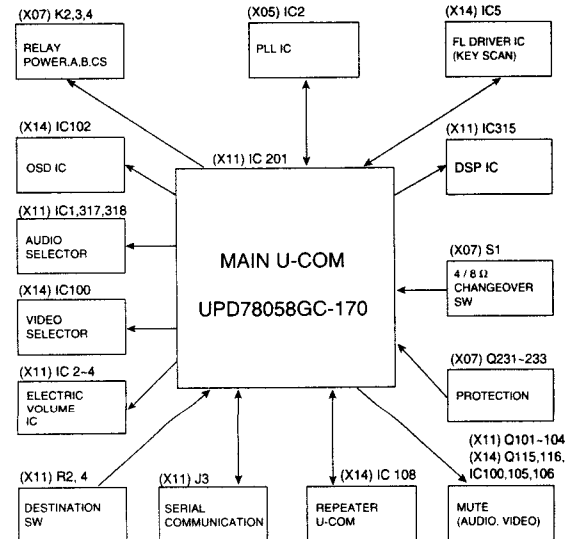
*KR-V9080: UPD78058GC-170(X11:IC201)

2-1. Microprocessor periphery block diagram

(KR-V990D)



(KR-V9080)



KR-V990D/V9080

CIRCUIT DESCRIPTION

2-2. Pin description

Pin No.	Name	I/O	Description
1	PROTECT	I	Protection input
2	4/8	I	4/8 changeover input
3	LIMITER	I	Limiter input
4	AVSS		A/D GND
5	SUB RELAY	O	+5V (sub u-com,DSP) relay control
*5			Unused
6	OSD CS	O	MB90089 CS
7	AVREF1		Unused
8	8/16	I	Serial XS8/SL16 Bit distinction
9	OSD SIN	O	MB90089 SIN
10	OSD SCLK	O	MB90089 SCLK
11	SUB SI	I	Control u-com communication SI
*11			Unused
12	SUB SO	O	Control u-cum communication SO
*12	YSS215 CD	O	YSS215 CD
13	SUB CLK	O	Control u-com communication CLK
*13	YSS215 BCK	O	YSS215 BCK
14	SUB REQ1	O	Control u-com communication REQ1
*14	YSS215 WCK	O	YSS215 WCK
15	SUB REQ2	I	Control u-com communication REQ2
*15	YSS215 IC	O	YSS215 IC
16	FL DOUT	I	UPD16311 DOUT (key scan input)
17	FL DIN	O	UPD16311 DIN (display data output)
18	FL CLK	O	UPD16311 clock
19	990D/9080	I	KR-V990D/V8090 changeover SW
20,21	SEL 2,1	I	Selector encoder input2,1
22,23	VOL 2,1	I	Volume encoder input2,1
24-26	TSW0-2	I	Destination changeover SW0,SW1(CH.SPACE),SW2
27	FL STB	O	UPD16311 strobe
28-30	9215 C-A	O	TC9215 C,B,A,
31,32	4035 B,A	O	TC4053 B,A
33	VSS		GND
34	SEL STB	O	NJU7311-7313 strobe
35	SEL DATA	O	NJU7311-7313 data
36	MUTE 10dB	O	Â[10dB mute
37	TSW3	I	Destination changeover SW3
*37			Unused
38	V SELECT	O	TA4053 video select
39			Unused
40	SEL CLK	O	NJU7311-7313 clock

CIRCUIT DESCRIPTION

Pin No.	Name	I/O	Description
41,42	VOL CE2,1	O	Electric volume CE2,CE1
43	VOL DATA	O	Electric volume data
44	VOL CLK	O	Electric volume clock
45	SBUSY	I/O	Serial busy
46	SDATA	I/O	Serial data
47	MUTE	O	Mute
48	REPEATER	O	Repeater output
49	SYNC DET	I	OSD video comparison signal detection
50	V MUTE	O	Video mute
51,52	V CONT 2,1	O	LA7951 video control 2,1
53	T MUTE	O	Tuner mute
54	PLL CLK	O	LC7218 clock
55	PLL DATA	O	LC7218 data
56	PLL CE	O	LC7218 CE
57	SD	I	SD input
58	STEREO	I	Stereo input
59	PLL DO	I	LC7218 DO
60	RESET	I	Reset
61	REMOCON	I	Remote control input
*62-66			Unused
62	RDS START	I	RDS start
63	RDS DATA	I	RDS data
64	RDS CLK	I	RDS clock
65	RDS ATT	O	RDS attenuator
66	RDS RST	O	RDS reset
67	CE	I	CE (backup)
68	VDD		Power supply (+5V)
69,70	X1,X2	I	Connected to system clock
71-73			Unused
74	AVSS		A/D analog power supply
75	AVREF0		A/D reference voltage input (+5V)
76	RDS SLEVEL	I	RDS signal level
77	RELAY POWER	O	Relay POWER control
78-80	RELAY A,B,CS	O	Relay Asp,Bsp,C/Ssp control

CIRCUIT DESCRIPTION

2-3. Initial state

POWER ON/OFF : OFF
 MAIN VOLUME LEVEL : -65dB
 L/R BALANCE : CENTER
 AUDIO INPUT SELECTOR : TUNER
 VIDEO INPUT SELECTOR : VIDEO1

 SPEAKER A : ON
 SPEAKER B : OFF
 TAPE2 / MONITOR : OFF
 LINE STRAIGHT : OFF
 DIMMER : DIMMER 1
 VISUAL FIX : OFF
 OSD DISPLAY MODE : OFF
 FL DISPLAY MODE : INPUT SELECTOR
 SURROUND MODE : STEREO
 CENTER SPEAKER : ON
 REAR SPEAKER : ON
 SUB WOOFER (KR-V990D) : OFF
 SUB WOOFER (KR-V9080) : ON

TUNING MODE : AUTO
 PRESET MEMORY : TEST PRESET FREQUENCY

 LAST BAND : FM
 FM FREQUENCY : 87.5 MHz
 AM FREQUENCY : CH SPACE 9K 531 kHz
 : CH SPACE 10K 530 kHz
 P. CH DISPLAY : [- -ch]

PTY SELECT MODE : OFF
 PTY SEARCH MODE : OFF
 RDS DISPLAY MODE : FREQUENCY DISPLAY
 TA / NEWS / INFO. : OFF
 SYSTEM CONTROL : XS8

- TEST PRESET FREQUENCY

Channel	BAND	K1 TYPE	BAND	K2 TYPE	BAND	E TYPE
01ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
02ch	FM	98.00MHz	FM	98.00MHz	FM	98.00MHz
03ch	FM	108.00MHz	FM	108.00MHz	FM	108.00MHz
04ch	AM	630kHz	AM	630kHz	AM	630kHz
05ch	AM	1000kHz	AM	1000kHz	AM	999kHz
06ch	AM	1440kHz	AM	1440kHz	AM	1440kHz
07ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
08ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
09ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
10ch	FM	89.10MHz	FM	89.10MHz	FM	89.10MHz
11ch	FM	90.00MHz	FM	90.00MHz	FM	90.00MHz
12ch	FM	97.50MHz	FM	97.50MHz	FM	97.50MHz
13ch	FM	98.50MHz	FM	98.50MHz	FM	98.50MHz
14ch	FM	106.00MHz	FM	106.00MHz	FM	106.00MHz
15ch	AM	530kHz	AM	530kHz	AM	531kHz
16ch	AM	990kHz	AM	990kHz	AM	990kHz
17ch	AM	1700kHz	AM	1610kHz	AM	1602kHz
18ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
19ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
20ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz

The initial setting is performed in a following event:

- When backup memory data is destroyed when reset is applied to the microprocessor.
- When the power cord is plugged in to the AC wall outlet while pressing the POWER key.

2-4. Contents of backup data to be held

POWER ON/OFF
 MAIN VOLUME LEVEL
 L/R BALANCE
 AUDIO INPUT SELECTOR
 VIDEO INPUT SELECTOR

SPEAKER A ON/OFF
 SPEAKER B ON/OFF
 TAPE2/MONITOR ON/OFF
 LINE STRAIGHT ON/OFF
 DIMMER MODE
 VISUAL FIX ON/OFF

DISPLAY MODE
 SURROUND MODE
 CH. LEVEL
 SPEAKER SETTING

INPUT LEVEL

KR-V990D/V9080

CIRCUIT DESCRIPTION

TUNING MODE
PRESET MEMORY 1-40ch
LAST BAND
LAST CHANNEL
LAST FM FREQUENCY
LAST FM CHANNEL
LAST AM FREQUENCY
LAST AM CHANNEL

2-5. Destination and model list

MODEL		KR-V990D	KR-V9080
Destination		K P M X Y E T	K P M X Y
Function			
AMP	DSP	○○○○○○○○	○○○○○○
	AC-3	○○○○○○○○	X X X X X
TUNER	K1	X ○ X X X X	X ○ X X X
	K2	○○○X○○X	○○○X○
	E1	X X ○○○○○	X X ○○○
	E3 (RDS)	X X X X X ○○	X X X X X

○ : YES X : NO

2-6. Destination list of tuner

Destination	BAND	Receive frequency range	channel space	iF	PLL reference frequency	destination TSW(X13- or X11-)		
						TSW2 P26	TSW1 P25	TSW0 P24
K1	FM	87.5MHz ~ 108.0 MHz	100kHz	10.7MHz	50kHz	0	1	0
	AM	530kHz ~ 1700kHz	10kHz	450kHz	10kHz			
K2	FM	87.5MHz ~ 108.0MHz	100kHz	10.7MHz	50kHz	*1		
	AM	530kHz ~ 1610kHz	10kHz	450kHz	10kHz			
E1	FM	87.5MHz ~ 108.0MHz	50kHz	10.7MHz	50kHz	0	0	1
	AM	531kHz ~ 1602kHz	9kHz	450kHz	9kHz			
E3	FM	87.5MHz ~ 108.0MHz	50kHz	10.7MHz	50kHz	1	1	1
	AM	531kHz ~ 1602kHz	9kHz	450kHz	9kHz			

*1 Set as K2 for except when the data for destination description is K1, E1, and E3.

(0 : PORT PULL DOWN
1 : PORT PULL UP)

※ ATTENTION

The RDS PTY AF search always corresponds to a span search of 50kHz.

KR-V990D/V9080

CIRCUIT DESCRIPTION

2-7. Key matrix

No. of ○ : (X14) IC5 Port No.

	10 KR1	11 KR2	12 KR3	13 KR4
15 KS1	DOLBY SURROUND	DSP LOGIC	DOLBY 3 STEREO	-
16 KS2	-	VISUAL FIX	LOUDNESS	STEREO
17 KS3	BAND	DOWN	AUTO	UP
18 KS4	+10	9	0	BALANCE R
19 KS5	7	6	BALANCE L	8
20 KS6	5	4	TAPE2	LINE STRAIGHT
21 KS7	DISPLAY	PTY	TA / NEWS / INFO.	-
22 KS8	3	2	MEMORY	SPEAKER B
23 KS9	DIRECT	1	SPEAKER A	POWER

2-8. KR-V990D Switching port control table

(1) AUDIO SELECTOR

		NJU7311AL (X08 : IC1)								NJU7313AL (X13 : IC 101)							
		② 27	③ 26	⑤ 24	⑥ 23	⑧ 21	⑨ 20	⑪ 18	② 27	③ 26	④ 25	⑤ 24	⑦ 22	⑧ 21	⑩ 19	⑪ 18	
		L1R1	L2R2	L3R3	L4R4	L5R5	L6R6	L7R7	L1R1	L2R2	L3R3	L4R4	L5R5	L6R6	L7R7	L8R8	
TAPE 2 OFF	TUNER	0	1	1	0	0	0	1	0	0	0	0	0	1	1		
	PHONO	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	
	CD	0	1	0	0	1	0	1	0	0	0	0	0	1	1		
	TAPE1	0	1	0	0	0	1	0	0	0	0	0	0	1	1		
	VIDEO1	0	1	0	0	0	0	1	1	0	0	0	1	0	0	1	
	VIDEO2	0	1	0	0	0	0	1	0	1	0	0	1	0	1	0	
	VIDEO3	0	1	0	1	0	0	1	0	0	0	0	0	1	1		
	LD	0	1	0	0	0	0	1	0	0	0	1	1	0	1	1	
TAPE 2 ON	TV /CABLE	0	1	0	0	0	0	1	0	0	1	0	1	0	1	1	
	TUNER	1	0	1	0	0	0	1	0	0	0	0	0	0	1	1	
	PHONO	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	
	CD	1	0	0	0	1	0	1	0	0	0	0	0	0	1	1	
	TAPE1	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	
	VIDEO1	1	0	0	0	0	0	1	1	0	0	0	1	0	0	1	
	VIDEO2	1	0	0	0	0	0	1	0	1	0	0	1	0	1	0	
	VIDEO3	1	0	0	1	0	0	1	0	0	0	0	0	0	1	1	
	LD	1	0	0	0	0	0	1	0	0	0	1	1	0	1	1	
	TV /CABLE	1	0	0	0	0	0	1	0	0	1	0	1	0	1	1	

(0 : OFF, 1 : ON)

(2) VIDEO SELECTOR

	LA7951 (X14:IC105,106)		MC74HC4053N (X14 : IC104)		
	13 CONT1	9 CONT2	A	B	C
VIDEO1	L	H	*	*	*
VIDEO2	H	L	*	*	*
VIDEO3	L	L	*	*	*
LD	H	H	L	L	L
TV/CABLE	H	H	H	H	H

(3) INPUT LEVEL CHANGEOVER

	TC9215P (X13 : IC3)	
	12 A	2 C
INPUT LEVEL ATT 0dB	L	L
INPUT LEVEL ATT -3dB	H	L
INPUT LEVEL ATT -6dB	L	H

*Don't care

CIRCUIT DESCRIPTION

2-9. KR-V9080 Switching port control table

(1) AUDIO SELECTOR

		NJU7312AL (X11 : IC318)								NJU7313AL (X11 : IC1)							
		② 27	③ 26	④ 25	⑥ 23	⑦ 22	⑧ 21	⑩ 19	⑪ 18	② 27	③ 26	④ 25	⑤ 24	⑦ 22	⑧ 21	⑩ 19	⑪ 18
		L1R1	L2R2	L3R3	L4R4	L5R5	L6R6	L7R7	L8R8	L1R1	L2R2	L3R3	L4R4	L5R5	L6R6	L7R7	L8R8
TAPE 2 OFF	TUNER	0	0	0	1	0	0	1	0	0	0	0	1	0	1	1	
	PHONO	0	0	1	0	0	0	1	0	0	0	0	1	0	1	1	
	CD	0	1	0	0	0	0	1	0	0	0	0	1	0	1	1	
	TAPE1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
	VEDEO1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	
	VIDEO2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	
	VIDEO3	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	
	LD	0	0	0	0	0	0	1	0	0	0	1	1	0	1	1	
TAPE 2 ON	TV /CABLE	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	1
	TUNER	0	0	0	1	0	0	1	0	0	0	0	0	1	1	1	
	PHONO	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	
	CD	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	
	TAPE1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	
	VIDEO1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	
	VIDEO2	0	0	0	0	0	0	1	0	0	1	0	0	1	1	0	
	VIDEO3	0	0	0	0	1	0	1	0	0	0	0	0	1	1	1	
	LD	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1	
	TV /CABLE	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1

(0 : OFF, 1 : ON)

(2) VIDEO SELECTOR

	LA7951 (X14: IC105,106)		MC74HC4053N (X14: IC104)		
	⑬	⑨	⑪	⑩	⑨
	CONT1	CONT2	A	B	C
VIDEO1	L	H	*	*	*
VIDEO2	H	L	*	*	*
VIDEO3	L	L	*	*	*
LD	H	H	L	L	L
TV/CABLE	H	H	H	H	H

* Don't care

(3) LINE STRAIGHT CHANGEOVER

	NJU7311AL (X11: IC317)	
	⑤ 22	⑥ 23
	L3R3	L4R4
LINE ST. ON	1	0
LINE ST. OFF	0	1

(0 : OFF, 1 : ON)

(4) TEST TONE CHANGEOVER

	NJU7311AL (X11: IC317)	TC92159P (X11: IC314)
	⑪ 18	⑤
	L7R7	
TEST TONE ON	0	H
TEST TONE OFF	1	L

(5) SURROUND CHANGEOVER

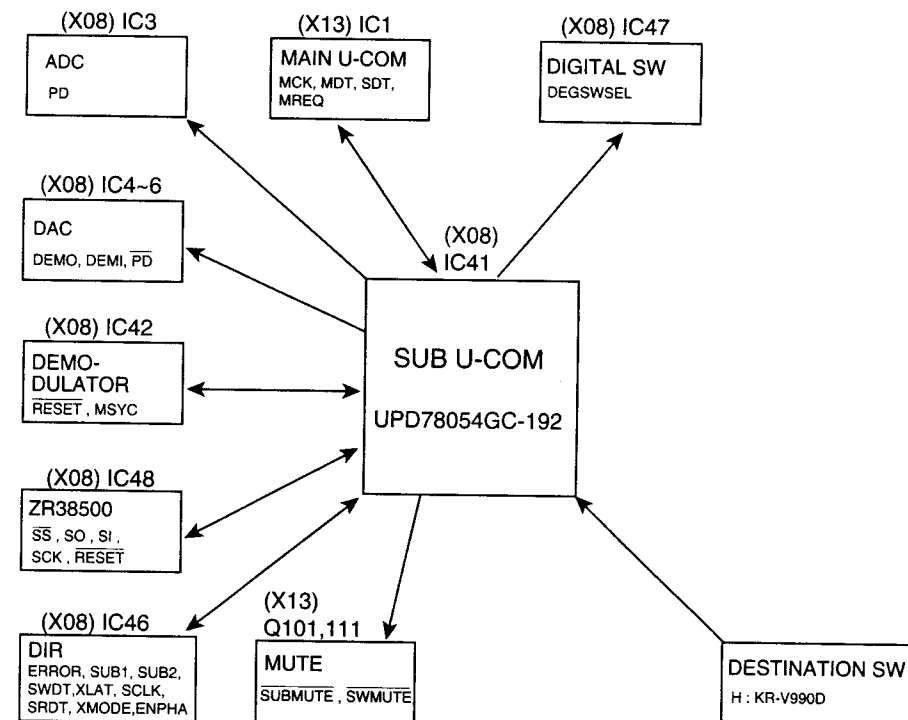
	NJU7311AL (X11 : IC317)				TC9215P (X11: IC314)
	② 27	③ 26	⑧ 21	⑨ 20	⑫
	L1R1	L2R2	L5R5	L6R6	
STEREO	0	1	1	0	H
AUTO (WIDE)	0	1	0	1	H
AUTO (Except for WIDE)	1	0	0	1	H
PRO LOGIC (WIDE)	0	1	0	1	H
PRO LOGIC (Except for WIDE)	1	0	0	1	H
3 STEREO (WIDE)	0	1	0	1	H
3 STEREO (Except for WIDE)	1	0	0	1	H
DSP/DSP LOGIC	0	1	0	1	L

(0 : OFF, 1 : ON)

CIRCUIT DESCRIPTION

3. Sub microprocessor : UPD78054GC-192 (X08 : IC41) ; KR-V990D only

3-1. Microprocessor periphery block diagram



CIRCUIT DESCRIPTION

3-2. Pin description

Pin No.	Name	I/O	Description
1-3			Unused
4	AVSS		A/D reference voltage (GND)
5,6		O	Unused
7	AVREF1		A/D reference voltage (VDD)
8-10			Unused
11	MDT	I	Master data (communicated with main u-com)
12	SDT	O	Slave data (communicated with main u-com)
13	MCK	I	Master clock (communicated with main u-com)
14	MREQ	I	Master request (communicated with main u-com)
15	SREQ	O	Slave request (communicated with main u-com)
16	ZRSI	I	ZR38500 slave data
17	ZRSO	O	ZR38500 master data
18	ZRCK	O	ZR38500 master clock
19	ZRSS	O	ZR38500 strobe
20	ZRRST	O	ZR38500 reset
21	ADPD	O	ADC AK 5340 power down
22,23	DADEMO0,1	O	DAC PCM1702/AK4319 sample rate select
24	DAPD	O	DAC PCM1702/AK4319 reset
25	DEMRS	O	Demodulator reset
26		I	Unused
27	DEMMSYC	I	Demodulator AC3 data sync check L: AC3 SYNCRO H: ERROR
28-31		I	Unused
32	PLLMUTE	I	PLL lock/unlock detect
33	VSS	I	GND
34	SUBMUTE	O	Sub mute
35	SWMUTE	O	SW.mute (controlled with TEST TONE)
36-40		I	Unused
41	DIRSRDT	I	DIR LC8904Q channel status output (32Bit)
42	DIRSCLK	O	DIR LC8904Q clock
43	DIRXLAT	O	DIR LC8904Q data latch
44	DIRSWDT	O	DIR LC8904Q data
45,46	DIRSUB1,2	I	DIR LC8904Q sampling frequency output
47	DIRERROR	I	DIR LC8904Q error check L: PCM H: ERROR
48	DIRXMODE	O	DIR LC8904Q reset
49	DIRENPHA	I	DIR LC8904Q emphasis
50-54			Unused
55	DEGSWSEL	O	TC74HC157 analog/digital select L: ANALOG H: DIGITAL
56,57			Unused
58	TYPESEL	I	Model distinction L: KR-V990D
59		I	Unused
60	RESET	I	Sub u-com reset
61-67		I	Unused
68	VDD		Power supply (+5V)
69-70	X2,X1		4.19MHz ceramics
71	IC(VPP)		GND
72-80			Unused

CIRCUIT DESCRIPTION

4. Test mode

4-1. Test mode of main unit

(1) Setting the test mode

The main unit is put into the test mode when the AC power is turned ON while pressing the "TUNING DOWN" key. The following state is obtained when the test mode of the main unit is set.

- The power is turned ON automatically.
- All the fluorescent display indicators and LEDs light. (The all-illuminated state is cleared by pressing any main unit key.)
- The backup state except when the power is turned ON and OFF is initialized.

(2) Canceling the test mode

Turn OFF the AC power.

(3) Tuner functions

- Preset channel call function

1) Calls channels 1 to 9 (keys 1 to 9) and channel 10 (key 0) when the +10 key is not operated.

2) Calls channels 11 to 19 (keys 1 to 9) and channel 20 (key 0) when the +10 key is operated once.

3) Calls channels 21 to 29 (keys 1 to 9) and channel 30 (key 0) when the +10 key is operated two times and calls channels 31 to 39 (keys 1 to 9) and channel 40 (key 0) when the +10 key is operated three times.

4) Shifts to the operation obtained when the +10 key is not operated if it is operated four times.

- S level hexadecimal data display function (E, T type)

With the selector on TUNER, when the "AUTO/DOLBY PRO LOGIC" or "DOLBY PRO LOGIC" key on the main unit is operated, the frequency display ceases and the S level is displayed in hexadecimal while the key is pressed.

When "3 STEREO" is operated, the display is switched to restore the normal display.

- MUTE signal output

The tuner MUTE signal is set to OFF at all times and is not controlled at all.

- RDS display mode

Pressing the "DSP LOGIC" key enables the RDS display operation irrespective of the tuned operation.

To return to the normal display, press any key of the main unit.

- Repeater (IR remote control) pin check mode

Pressing the "BAL-L" key enables the POWER ON remote control code of an LD (KENWOOD) to be output from the repeater pin. Message "LD ON" is then displayed on the fluorescent indicator tube.

To return to the normal display, press any key of the main unit.

- E2PROM check mode

Pressing the "BAL-R" key enables data to be written in E2PROM. If the data read from the area in which data

was written is the same as the written data, the operation is proper. If it is different from the written data, message "NG" is displayed on the fluorescent indicator tube.

To return to the normal display, press any key of the main unit.

- Total go-off function

Pressing the "MEMORY" key enables the total go-off operation and normal lighting operation to be performed cyclically.

- Dimmer operation function

Pressing the "VISUAL FIX" key enables the dimmer operation. After that, the cyclic operation that cancels the dimmer operation is performed when the "VISUAL FIX" key is pressed.

- RDS attenuator (E, T type)

With the selector on TUNER, when the "SP A" key on the main unit is operated, the "SP A" display is erased and ATT is on. If the "SP A" on the main unit is operated again after that, "SP A" is displayed and ATT is switched off. The SP A operation and ATT operation work together and are combined with switching the ATT display on and off.

The ATT operation is done from ATT off.

If SP A was turned off with the selector on something other than TUNER, it will come on when TUNER is selected.

(4) AMP function

The original function of each key is executed when the SELECTOR mode is set to TUNER. The test mode operation is not performed in this case.

- One touch max, mid, min setting for Main VOL. input level, Speaker distance and Speaker level. If the selector is on something other than TUNER, max, mid, min settings can be made with the operation rotary encoder and the number keys. (All channel working mode)

(a) Max is number key "3".

(b) Mid is number key "2".

(c) Min is number key "1".

- One touch setting for Main VOL. input level, Speaker distance and Speaker level items. The items of 1) can be specified with respective keys and, if the selector is on something other than TUNER, direct settings can be made with the number keys. (Initial state is Main VOL.)

(a) Input level is number key "4" + key of 1): IL

(b) Speaker distance is number key "5" + key of

1): SD

(c) Speaker level FRONT L is number key "6" + key of

1): IL

(d) Speaker level FRONT R is number key "7" + key of

1): FR

(e) Speaker level CENTER is number key "8" + key of

1): C

KR-V990D/V9080

CIRCUIT DESCRIPTION

(f) Speaker level REAR L is number key "9" + key of 1) : SL

(g) Speaker level REAR R is number key "0" + key of 1) : SR

(h) Speaker level Sub woofer is number key "+10" + key of 1) : SW

• Mute operation

Pressing the "AUTO" key enables the mute operation. After that, the cyclic operation that cancels the mute operation is performed when the "AUTO" key is pressed.

• Midnight operation function

Pressing the "TUNING UP" key enables the midnight operation. After that, the cyclic operation that cancels the midnight operation is performed when the "TUNING UP" key is pressed.

• Dolby surround center mode function

Pressing the "TUNING DOWN" key enables the Dolby surround key to be cyclically changed in the order of normal ' phantom ' normal '

• Balance L and R setting in a one-touch motion

Pressing the "BAL-L" key enables the unit to enter the L-channel balance MAX state. After that, the balance center state is returned when the "BAL-L" key is pressed. The cyclic operation is then performed.

Pressing the "BAL-R" key enables the unit to enter the R-channel balance MAX state. After that, the balance center state is returned when the "BAL-R" key is pressed. The cyclic operation is then performed.

• Unconditional AC-3 digital input function (KR-V990D)

This function is used when the AC-3 digital signal based on the DAT source is received. Pressing the "BAND" key enables the unit to enter the unconditional AC-3 digital input state. The "TUNED" lamp on the fluorescent indicator tube then lights. To return to the normal state, press the "BAND" key.

• Sub-woofer SP ON/OFF setting

The sub-woofer ON/OFF operation is set by the cyclic operation every time the "MEMORY" key is pressed.

The "SPEAKERS" display on the fluorescent indicator tube disappears when the switch is turned off.

• TEST TONE operation

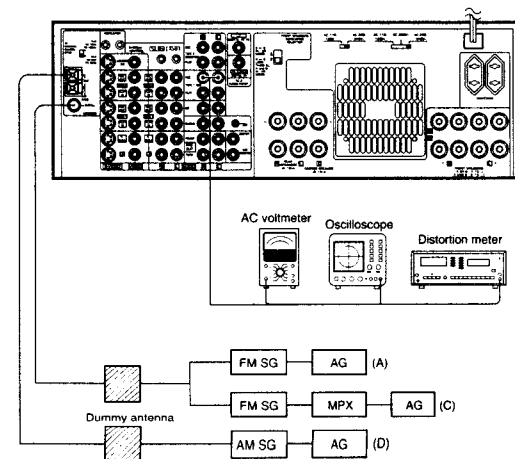
Uses the "DIRECT" key instead of the "TEST TONE" key.

KR-V990D/V9080

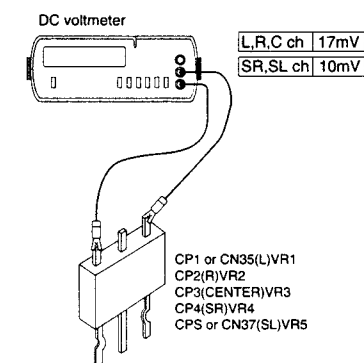
ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION (E,T type)		SELECTOR : FM					
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±40kHz dev. (E,T type) 60dBμ (ANT input)	Connect a DC voltmeter between TP3 and TP4 (X05-)	AUTO or MONO 98.0MHz	1.3 (X05-)	0V	(a)
2	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±40kHz dev. Pilot: ±6kHz dev. (E,T type) 60dBμ (ANT input)	(B)	AUTO 98.0MHz	IFT (W02-)	Minimum distortion.	(a)
AUDIO SECTION							
<1>	IDLE CURRENT	—	(E) Connect a DC voltmeter across CP1 or CN35(L) CP2(R) CP3(CENTER) CP4(SR) CP5 or CN37(SL) (X07-)	Volume:0	VR1(L) VR2(R) VR3(CENTER) VR4(SR) VR5(SL) (X07-)	(L,R,CENTER) 17mv (SR,SL) 10mv	(b)
<2>	ON SCREEN Color burst frequency	—	Connect a frequency counter between port 10 (check round of HSYNC) of IC102 and GND (X14-)	After power ON, connect port 21 (check round of TEST) of IC102 and GND (X14-)	TC1 (X14-)	3.57954MHz ±25Hz	

(a)



(b)



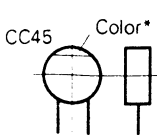
KR-V990D/V9080

PARTS DESCRIPTIONS

CAPACITORS

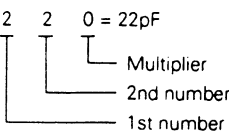
CC 45 TH 1H 220 J
1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc. 4 = Voltage rating
2 = Shape ... round, square, ect. 5 = Value
3 = Temp. coefficient 6 = Tolerance



Capacitor value

010 = 1pF
100 = 10pF
101 = 100pF
102 = 1000pF = 0.001μF
103 = 0.01μF



Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF - 10 ~ +50 Less than 4.7μF -10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

Voltage rating

2nd word 1st word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J

1 2 3 4 5 6 7

(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z

1 2 3 4 5 6 7

(Chip) (B, F)

Refer to the table above.

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Voltage rating
6 = Value
7 = Tolerance

Dimension (Chip capacitors)

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J

1 2 3 4 5 6 7

(Chip) (B,F)

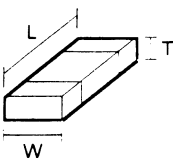
Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J

1 2 3 4 5 6 7

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Rating wattage
6 = Value
7 = Tolerance

Dimension



Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

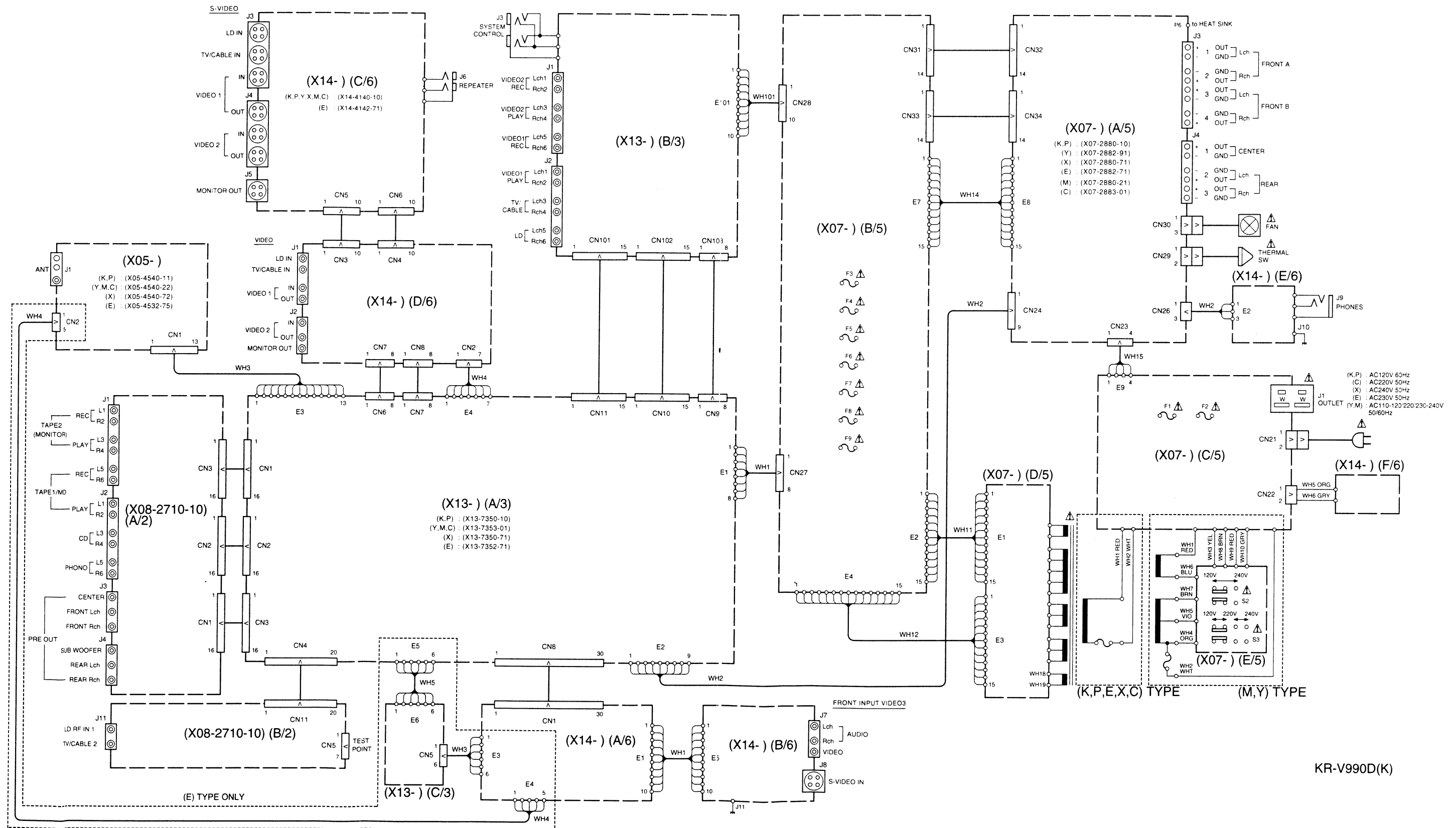
Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

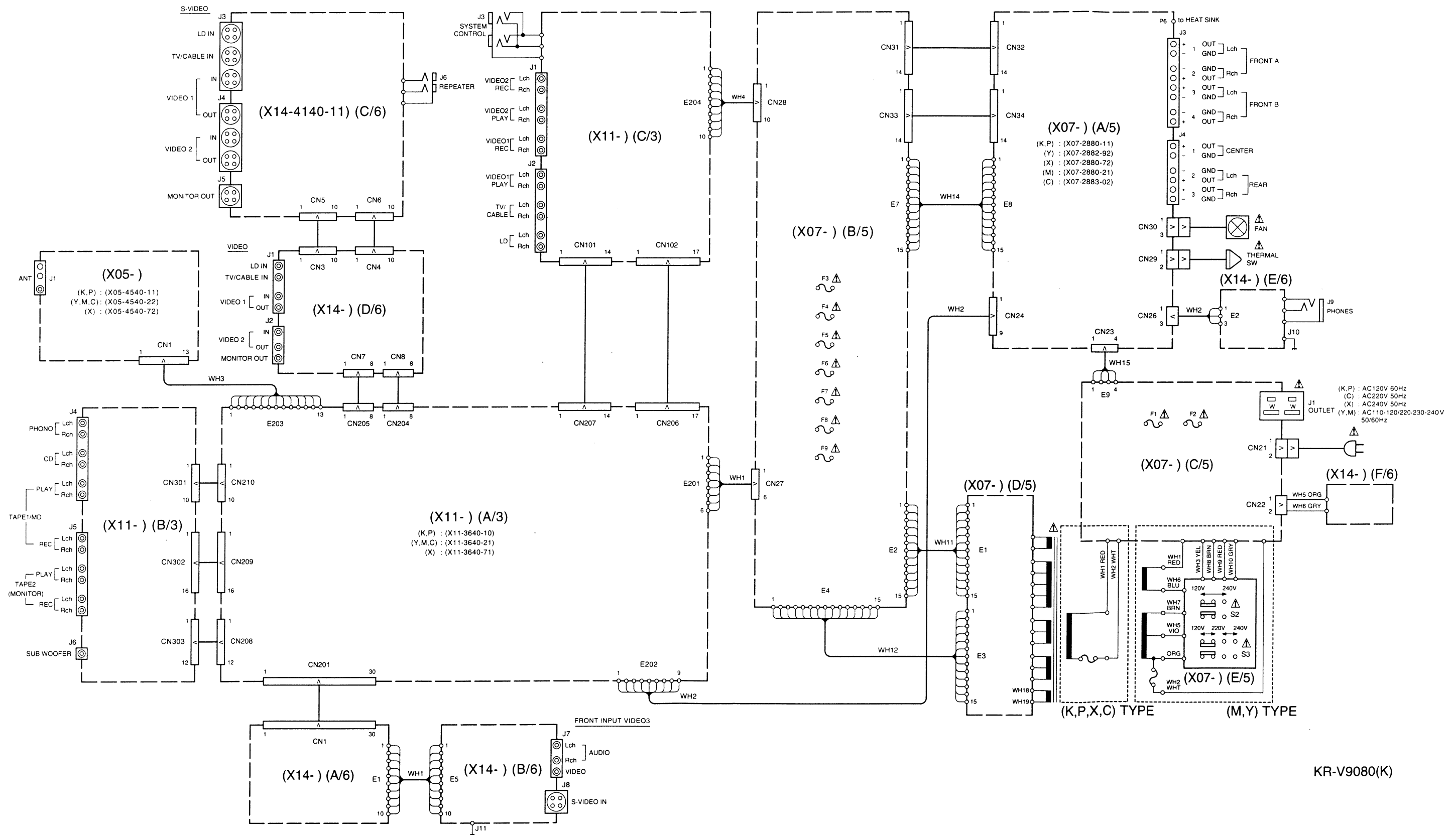
KR-V990D/V9080 KR-V990D/V9080

WIRING DIAGRAM

KR-V990D

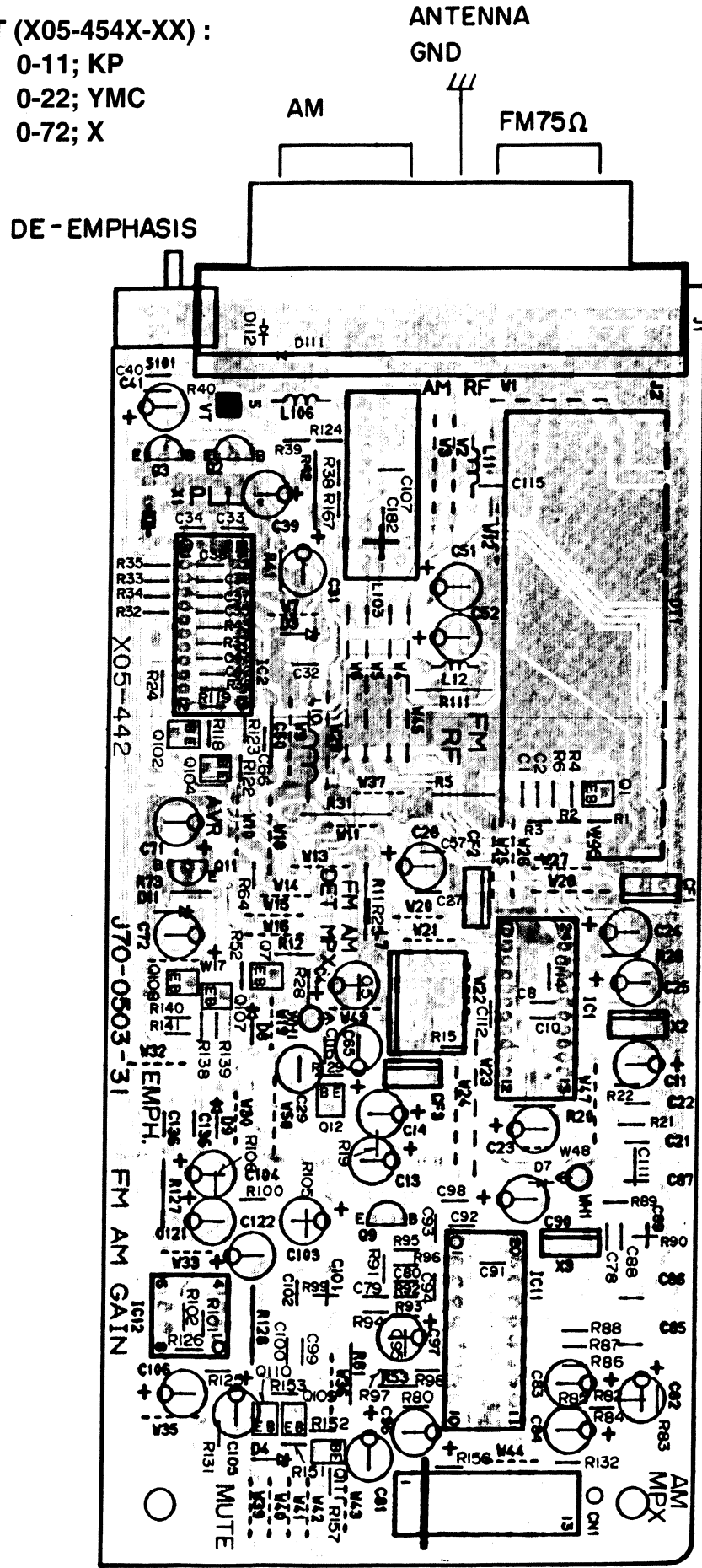


KR-V990D(K)

KR-V9080

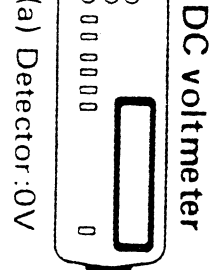
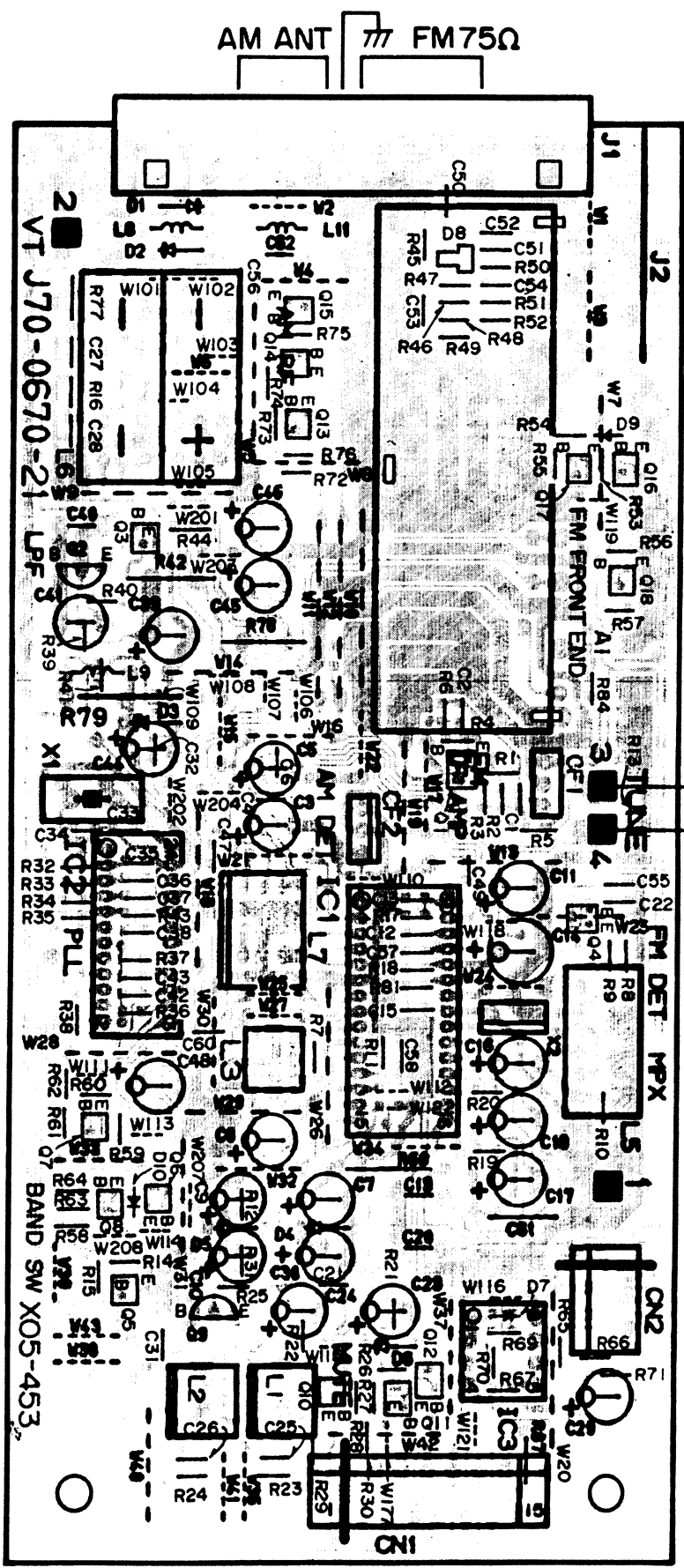
PC BOARD (Component side view)

TUNER UNIT (X05-454X-XX) :
0-11; KP
0-22; YMC
0-72; X

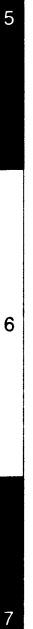


TUNER UNIT (X05-4532-75) : E

ANTENNA
GND

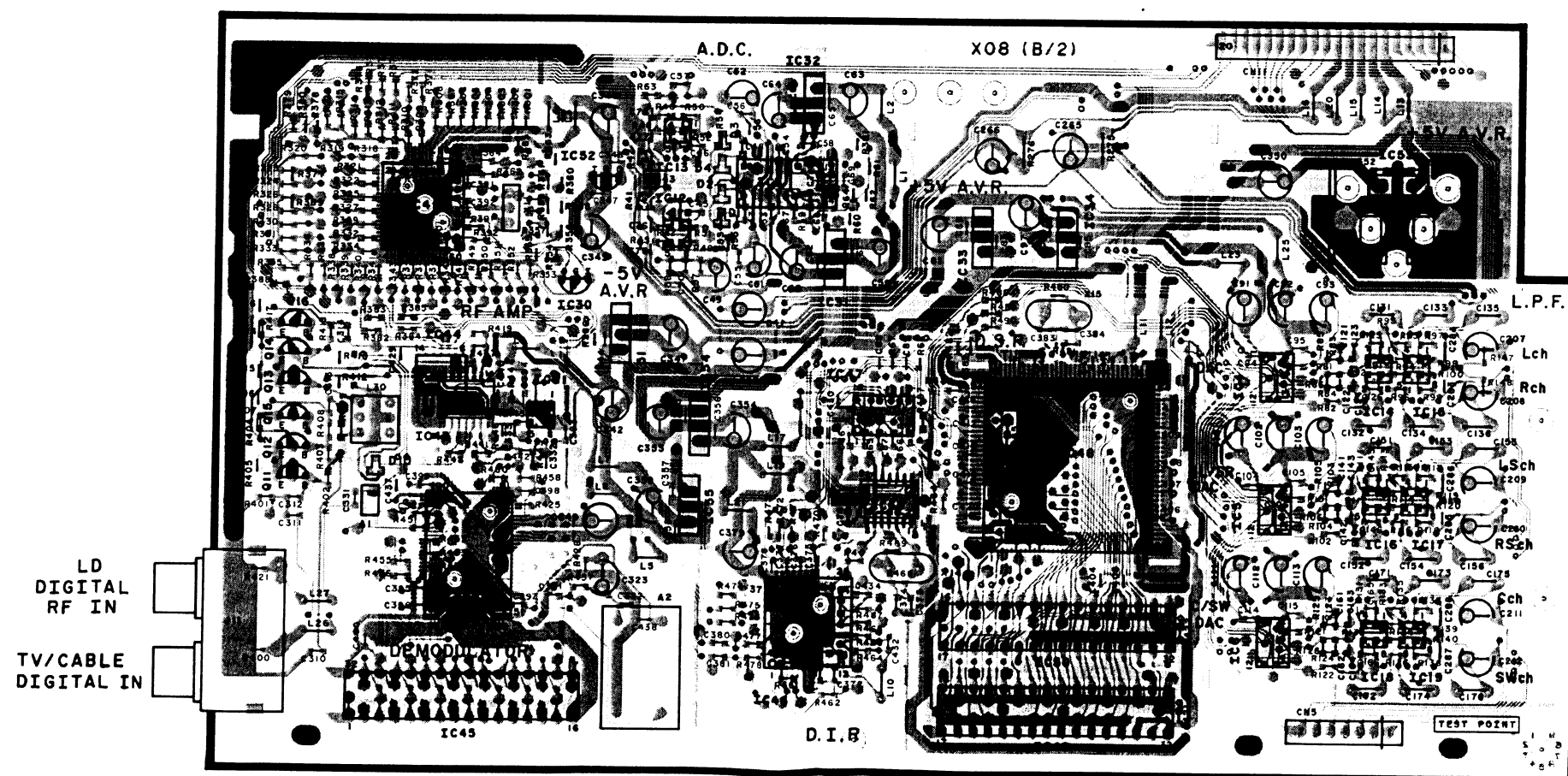
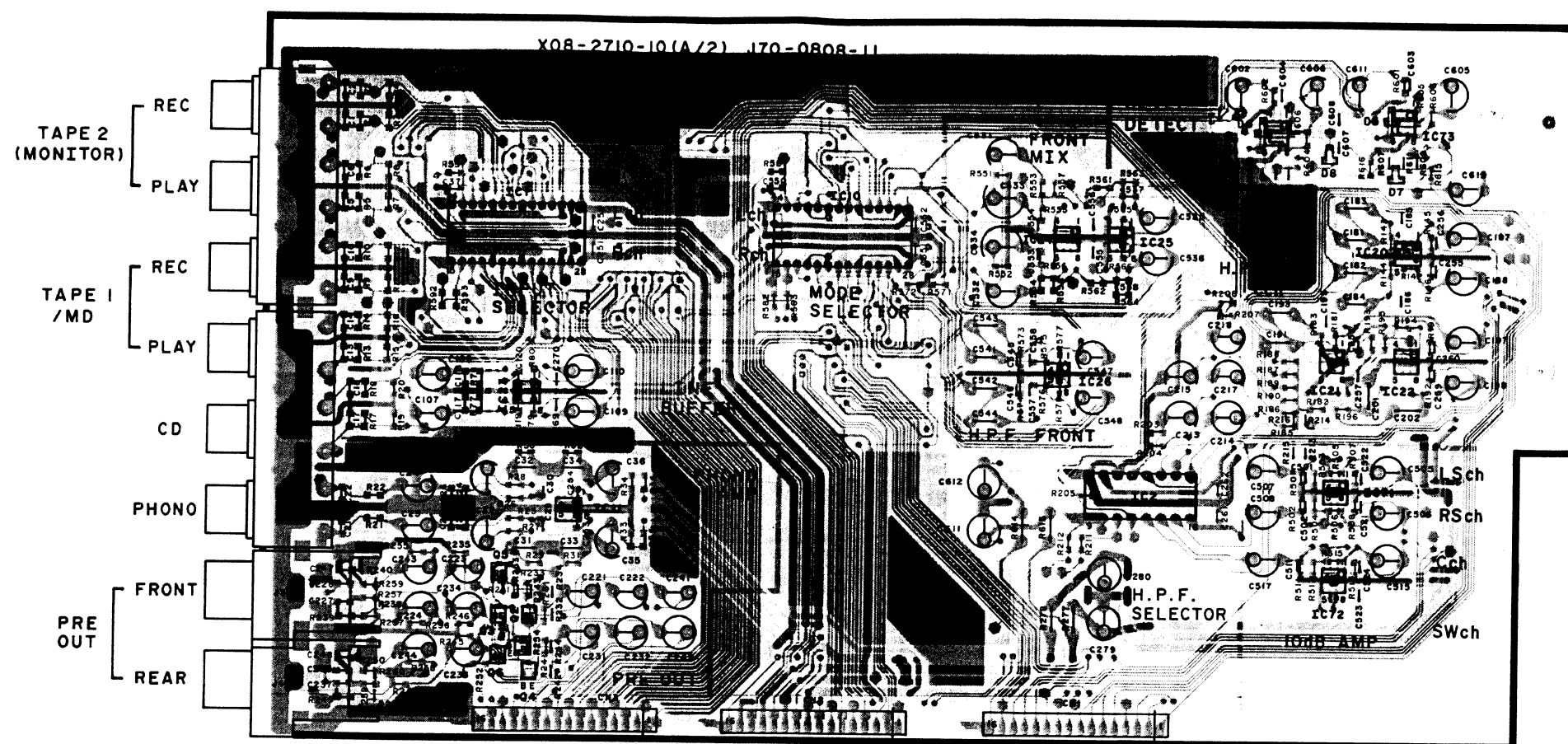


A vertical color calibration bar featuring seven numbered color patches (1-7) and a grayscale step wedge. The patches are arranged vertically, with patch 1 at the top and patch 7 at the bottom. Each patch is a small square with a corresponding number next to it. The grayscale step wedge is located to the right of the color patches, showing a range of gray tones from white to black.



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PC BOARD (Component side view) SURROUND UNIT X08-2710-10 (KR-V990D only)



PC BOARD (Component side view)

CONTROL UNIT (X11-364X-XX)

0-10; KP (KR-V9080 only)

0-21; YMC (KR-V9080 only)

0-71; X (KR-V9080 only)

SYSTEM
CONTROL

VIDEO 2
REC
OUT

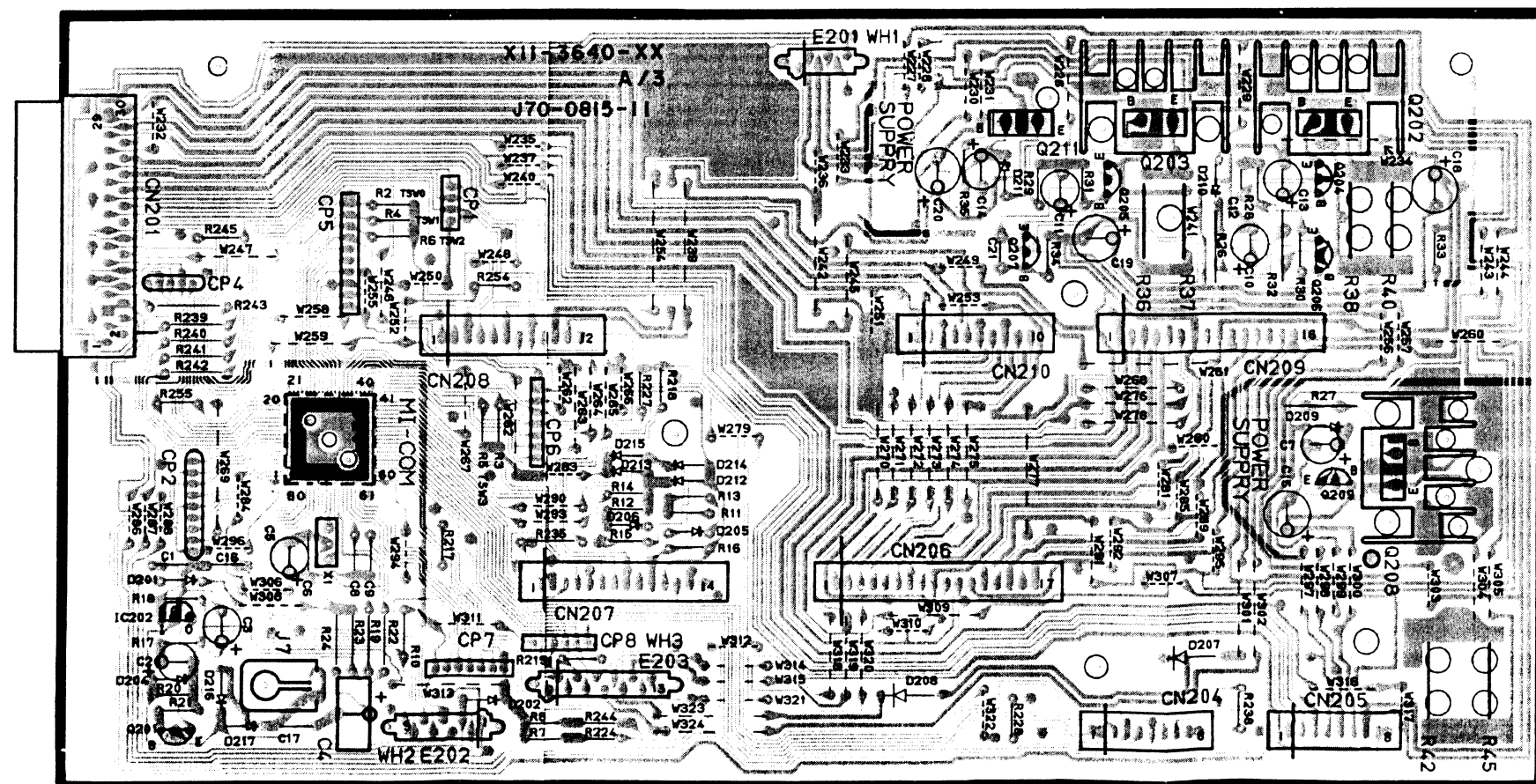
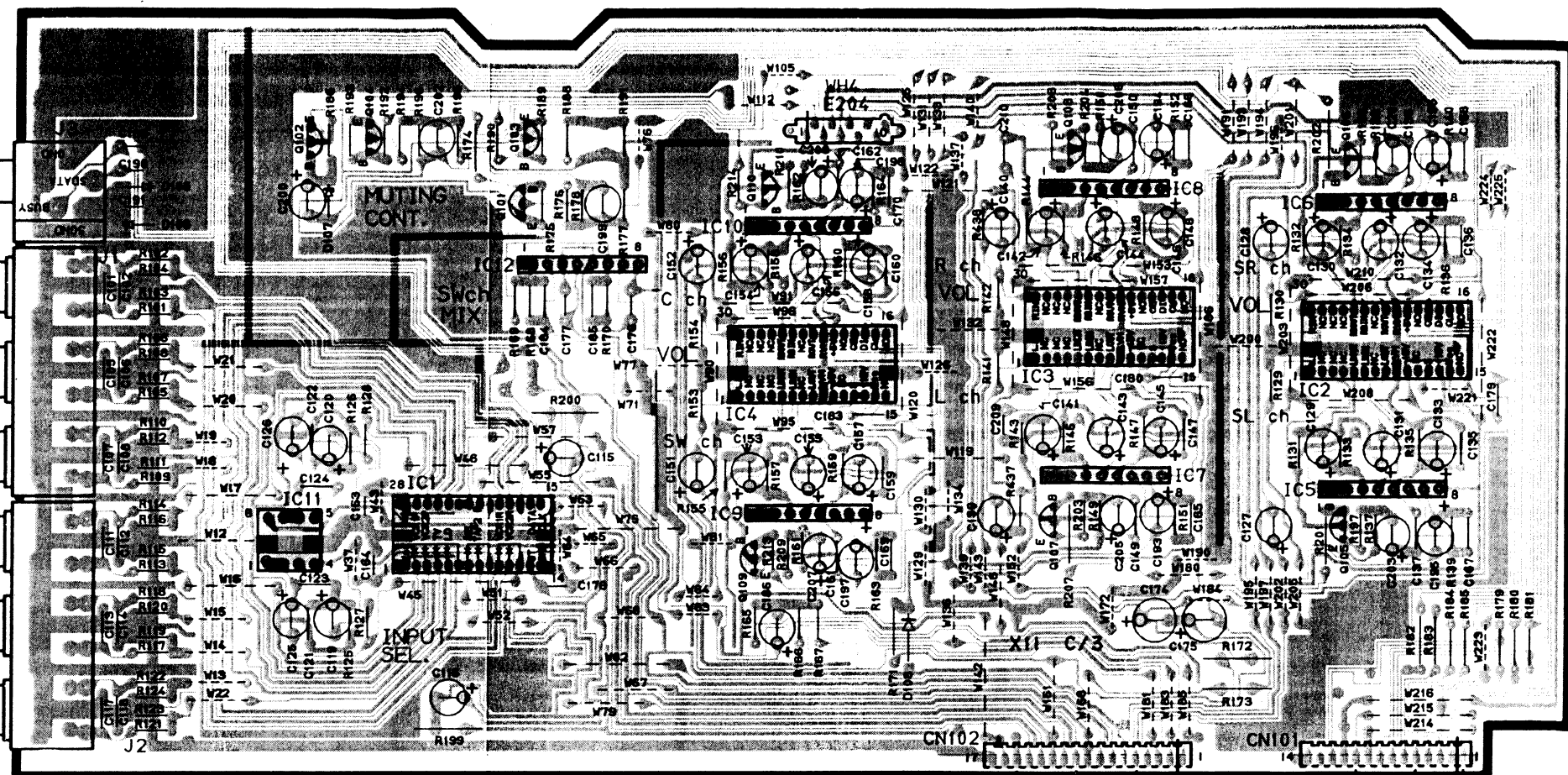
PLAY
IN

VIDEO 1
REC
OUT

PLAY
IN

TV/
CABLE

LD



PC BOARD (Component side view)

MAIN AMP UNIT (X07-288X-XX)

0-10; KP (KR-V990D)

0-11; KP (KR-V9080)

0-21; M (KR-V990D)

0-22; M (KR-V9080)

0-71; X (KR-V990D)

0-72; X (KR-V9080)

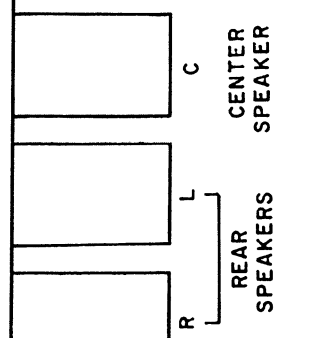
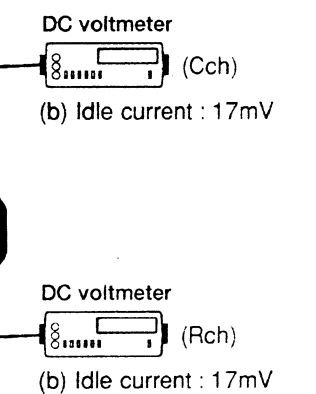
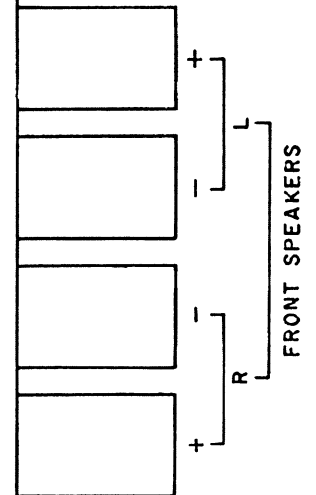
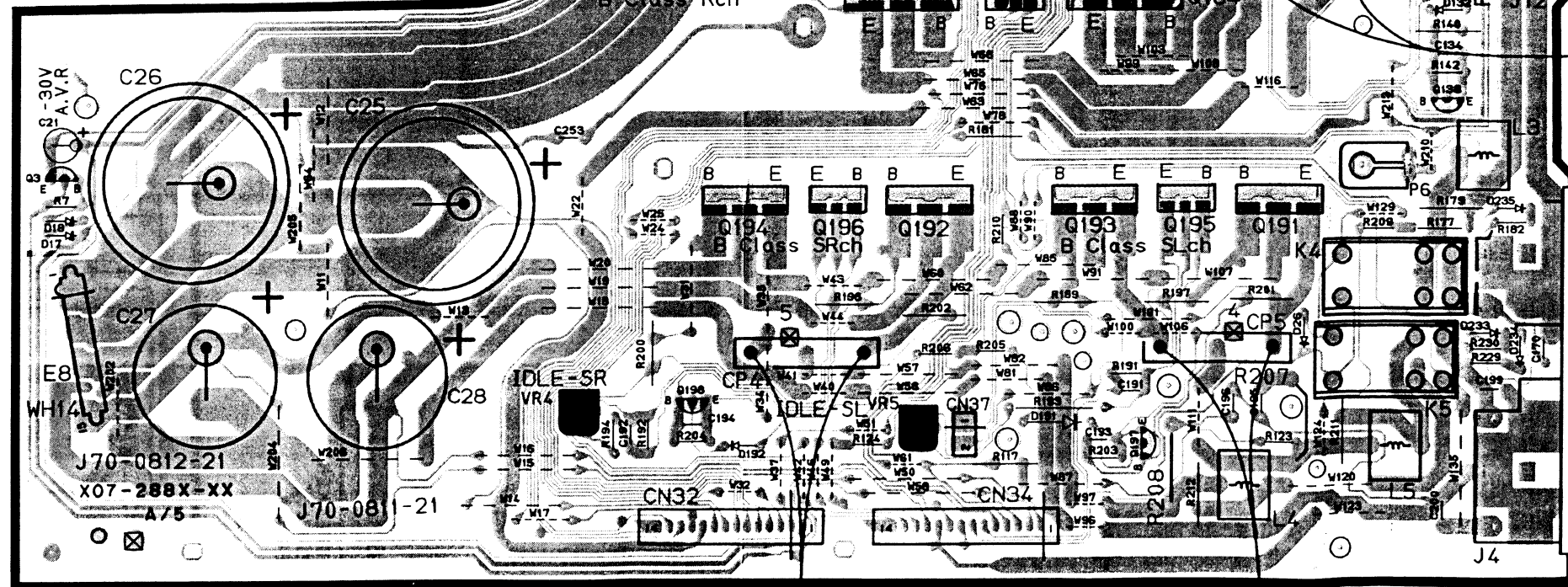
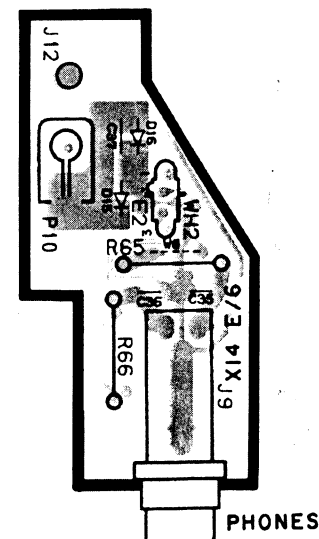
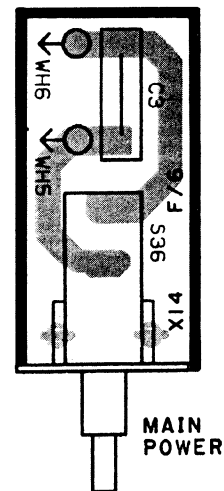
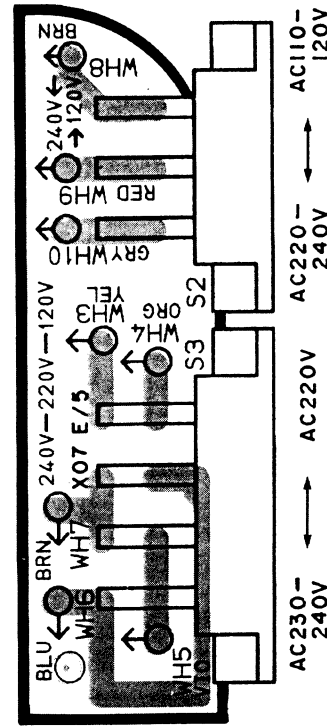
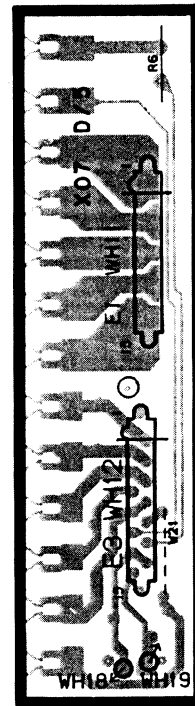
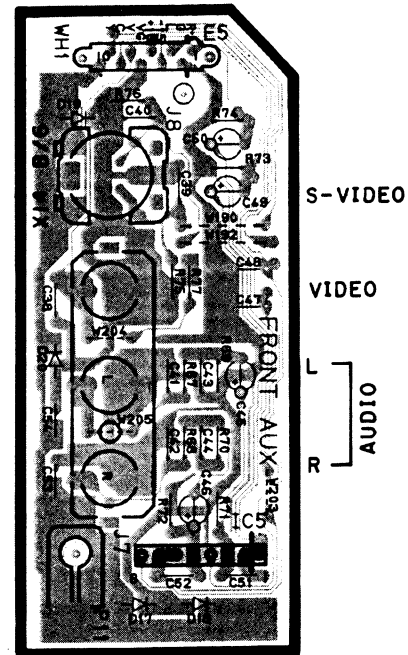
2-71; E (KR-V990D)

2-91; Y (KR-V990D)

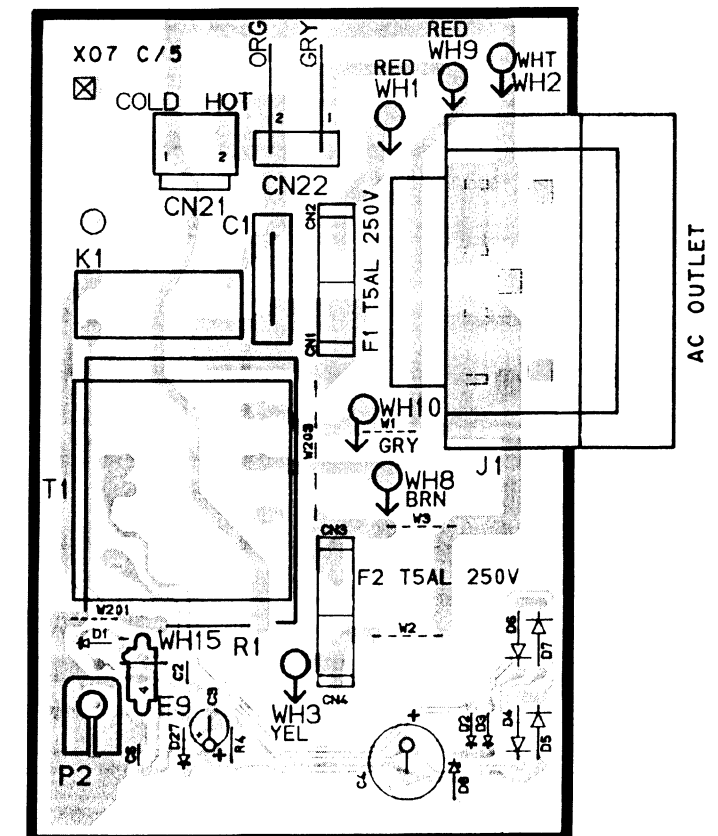
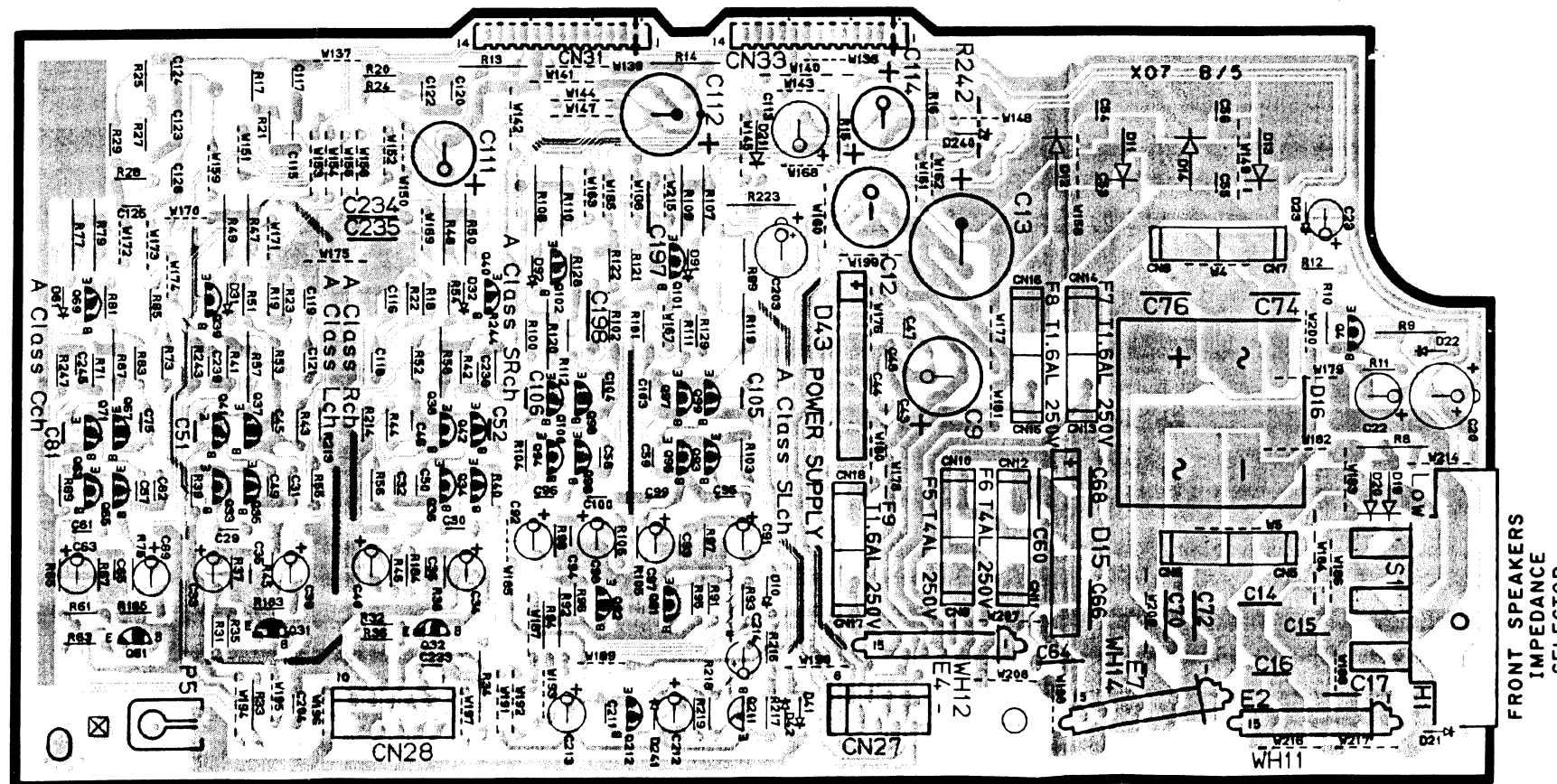
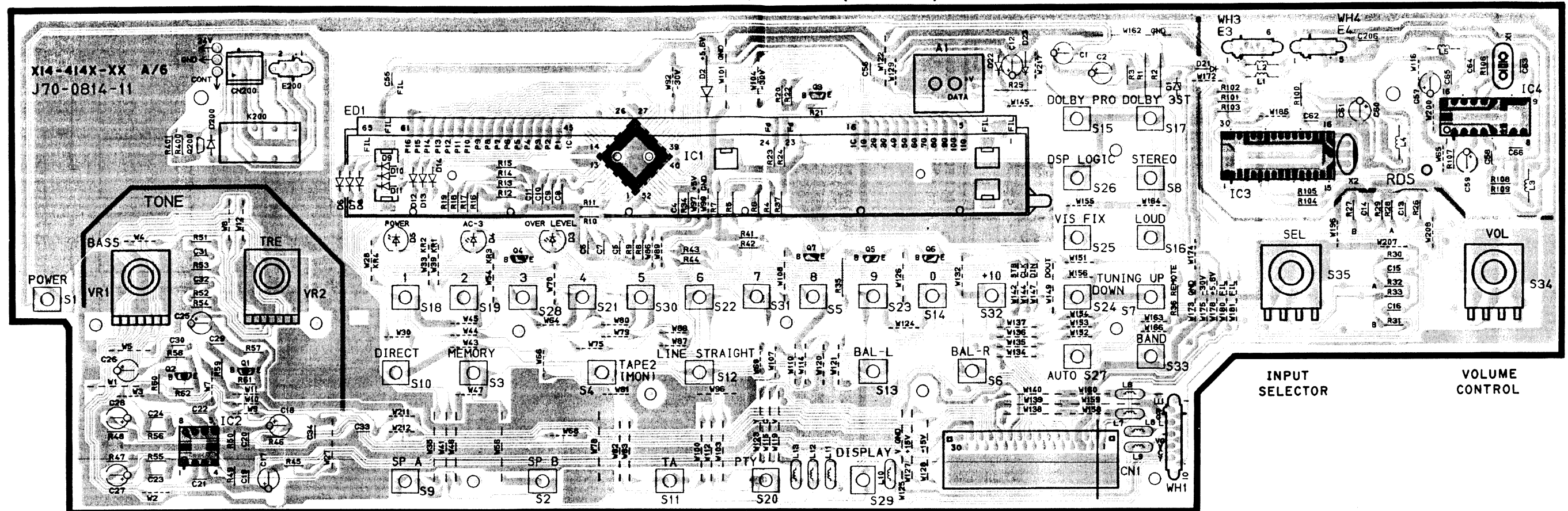
2-92; Y (KR-V9080)

3-01; C (KR-V990D)

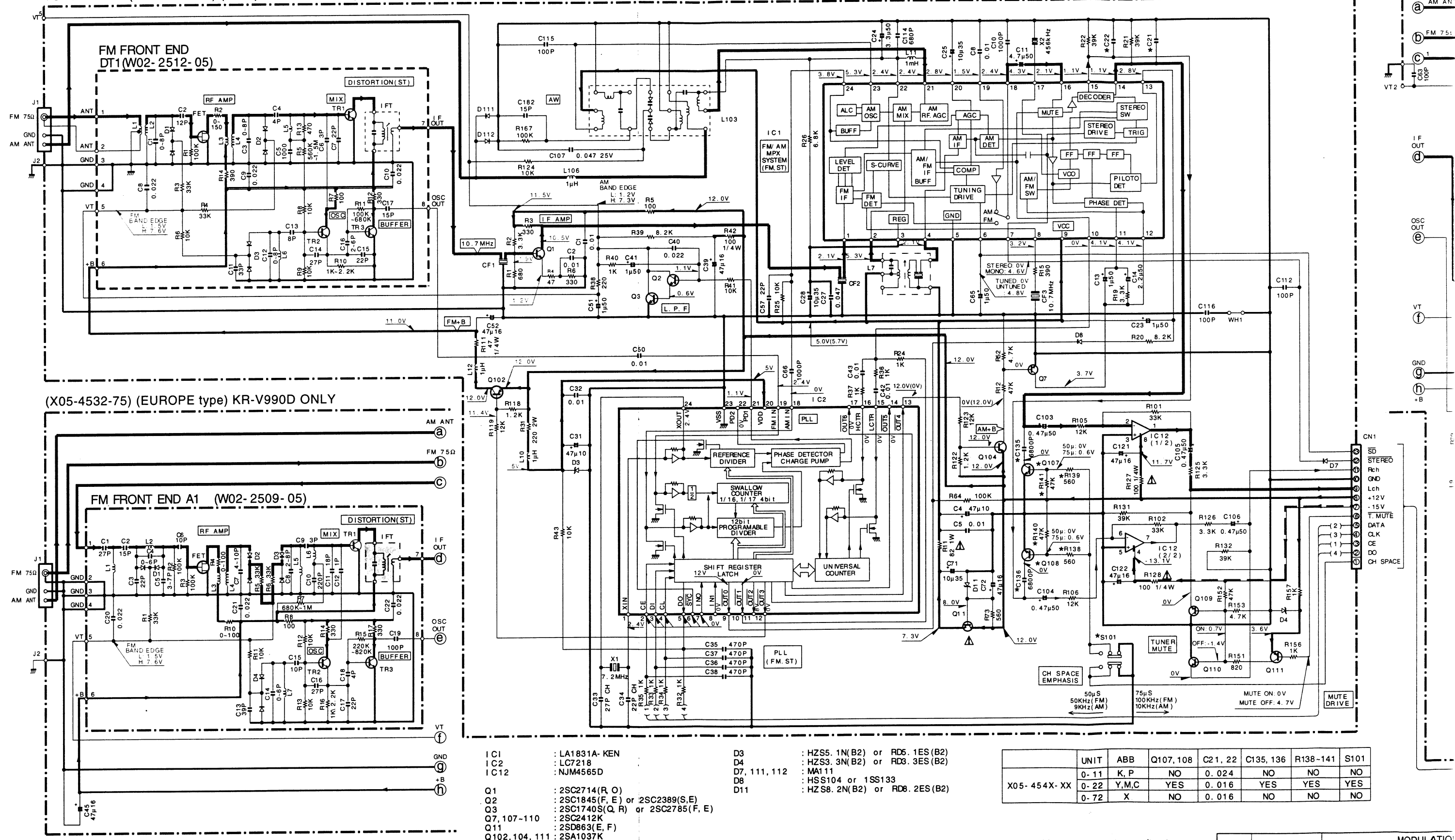
3-02; C (KR-V9080)



PC BOARD (Component side view) DISPLAY UNIT (X14-414X-XX) 0-10; KPYXMC (KR-V990D) 2-71; E (KR-V990D)
0-11; KPYXMC (KR-V9080)



TUNER UNIT (X05-4540-XX) (Except for EUROPE type)



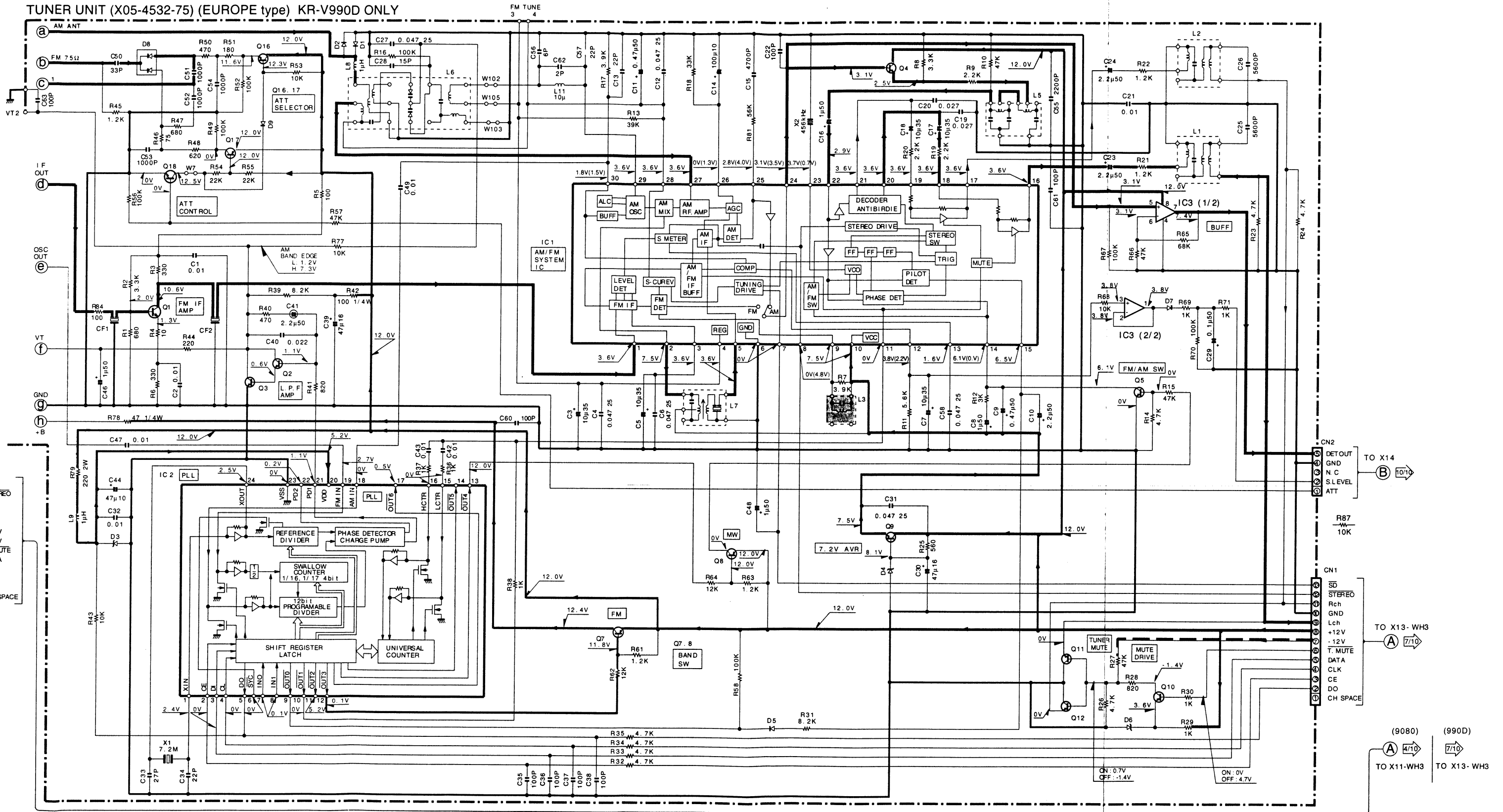
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

UNIT	ABB	Q107, 108	C21, 22	C135, 136	R138-141	S101
0-11	K, P	NO	0.024	NO	NO	NO
0-22	Y, M, C	YES	0.016	YES	YES	YES
0-72	X	NO	0.016	NO	NO	NO

MODE	CARRIER	MODULATION	
		FREQUENCY	DEV
FM	98MHz	1kHz	STEREO 67.5
AM	1000(999)kHz	400Hz	MONO 30% M

TUNER UNIT (X05-4532-75) (EUROPE type) KR-V990D ONLY



IC1 : LA1836
IC2 : LC7218
IC3 : M5223P

Q1 : 2SC2714 (R, O)
Q2 : 2SC1845 (F, E)
Q3, 4, 5, 16, 18 : 2SC4081 (R, S)
Q7, 8, 10, 17 : 2SA1576 (R, S)
Q9 : 2SD863 (E, F)
Q11, 12 : 2SD1757K

D1, 2, 5 : 1SS133 or HSS104
D3 : RD5.1ES (B2) or HZS5.1N (B2)
D4 : RD8.2ES (B2) or HZS8.2N (B2)
D6 : RD3.3ES (B2) or HZS3.3N (B2)
D7, 9 : MA111
D8 : 1SS268

KR-V990D/V9080 (1/10)

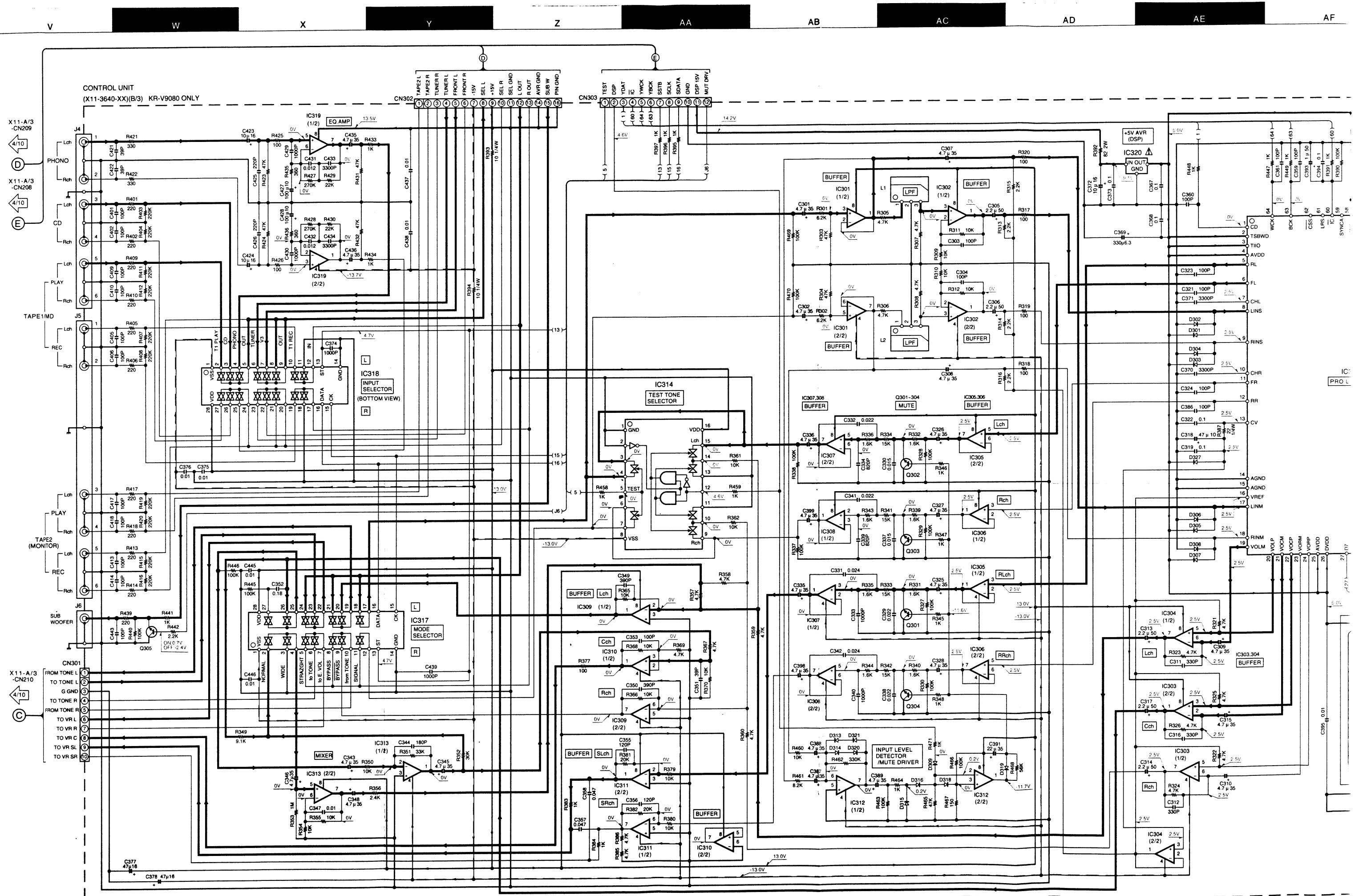
SIGNAL LINE
GND LINE
+B LINE
-B LINE

(9080) TO X11-WH3
(990D) TO X13-WH3

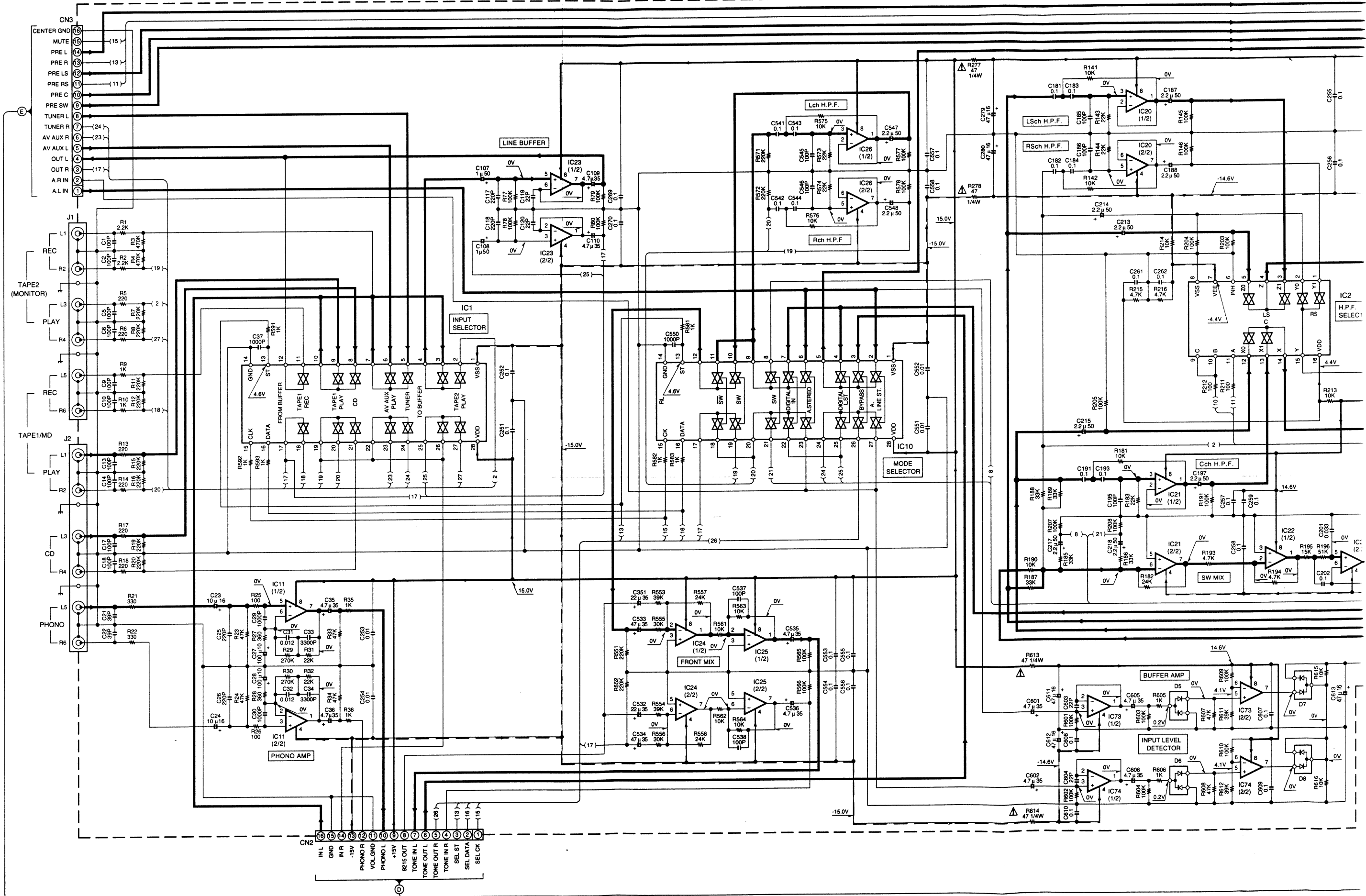
MODULATION	ANT INPUT
STEREO 67.5kHz 7.5kHz (Pilot)	60dB
MONO 30% MOD	60dB

Y05-3070-10

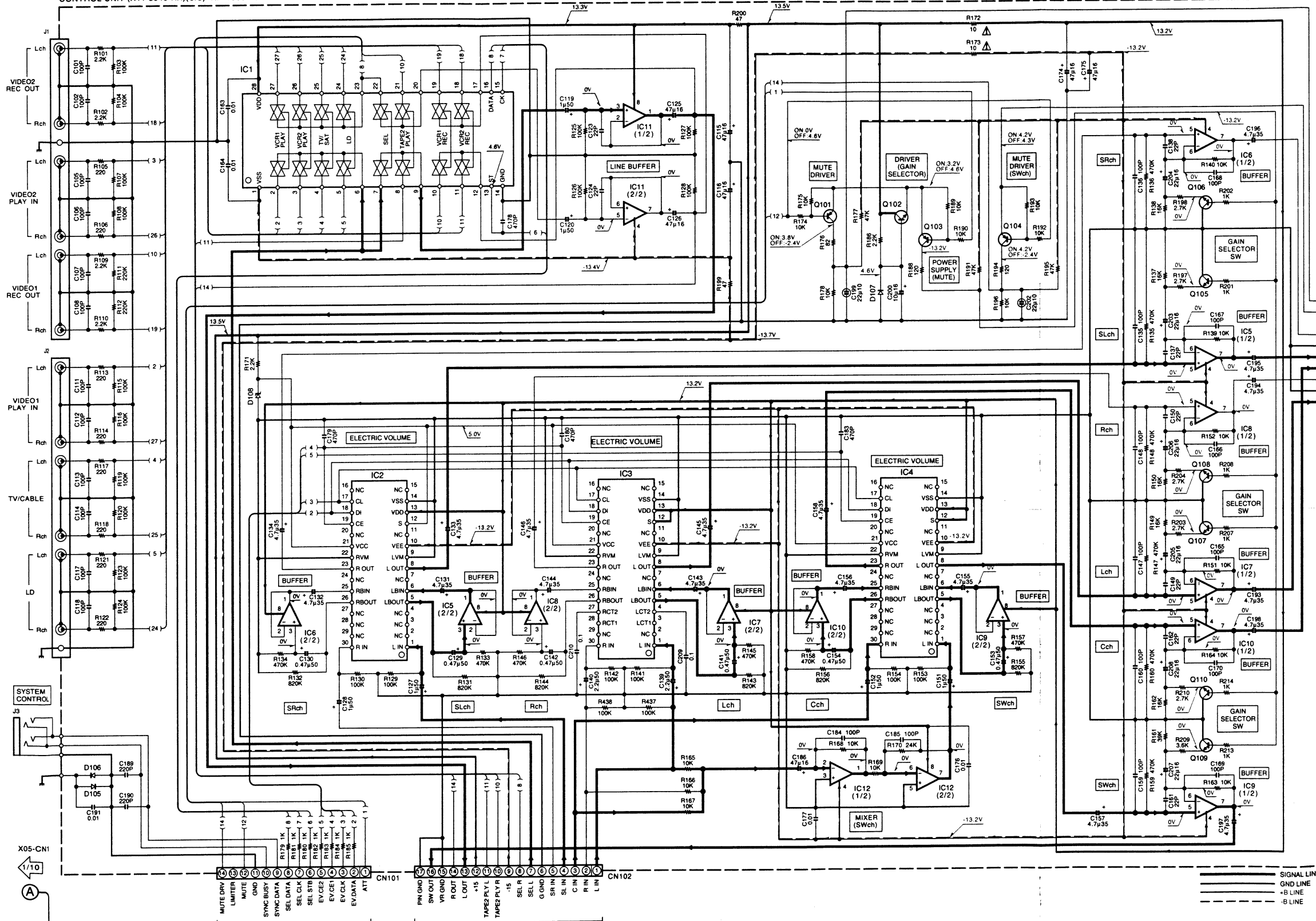
KR-V990D/V9080
KENWOOD



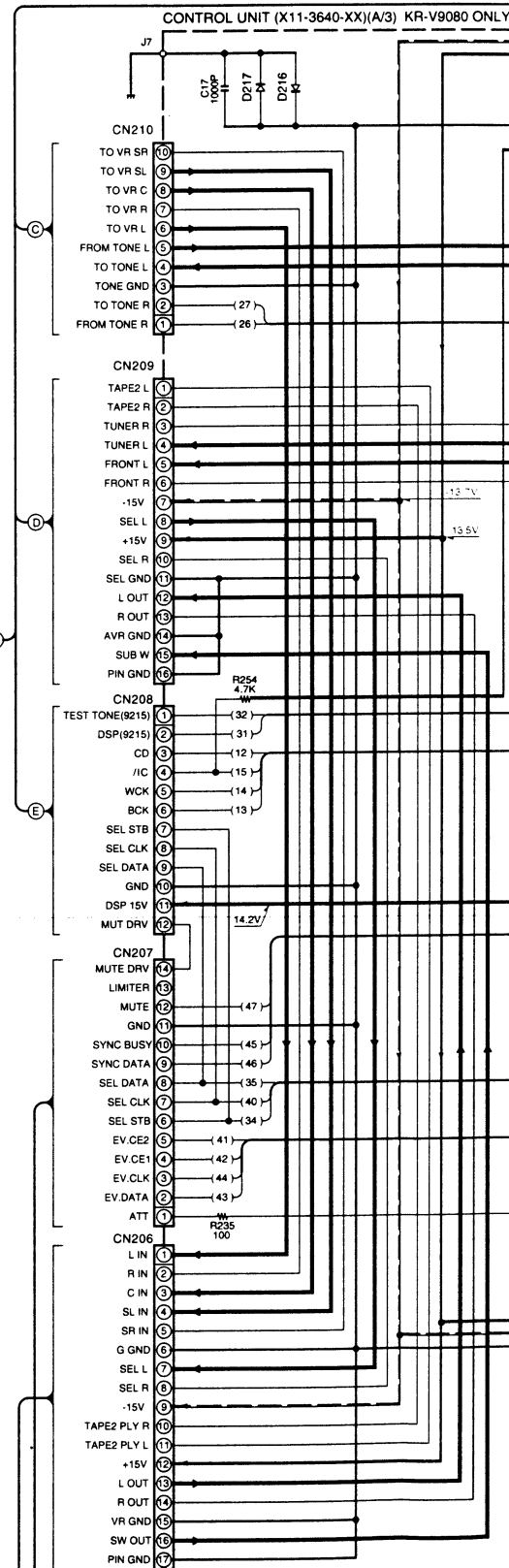
SURROUND UNIT (X08-2710-10) (A/2) KR-V990D ONLY



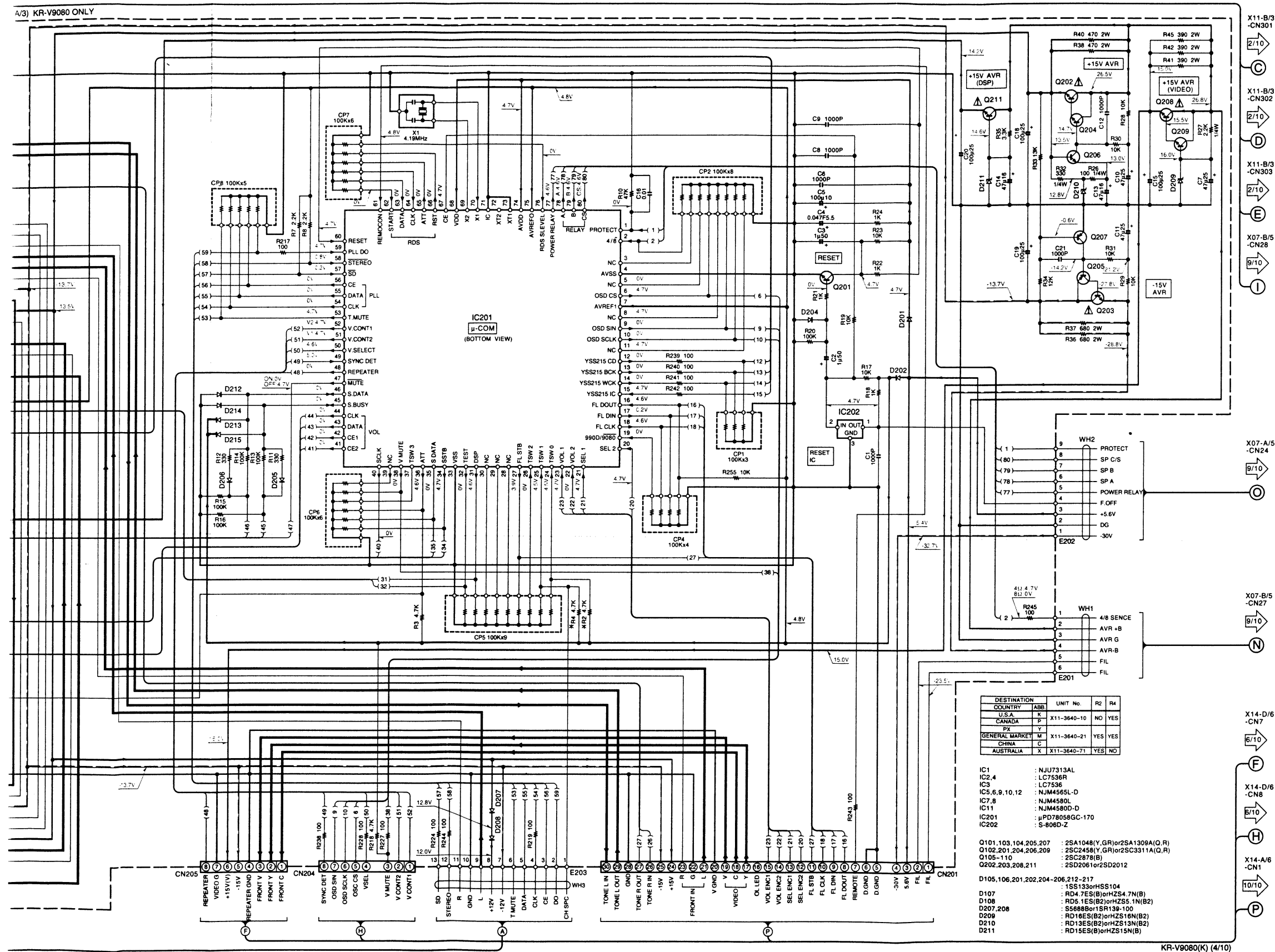
CONTROL UNIT (X11-3640-XX)(C/3) KR-V9080 ONLY



CONTROL UNIT (X11-3640-XX)(A/3) KR-V9080 ONLY



A/3) KR-V9080 ONLY



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

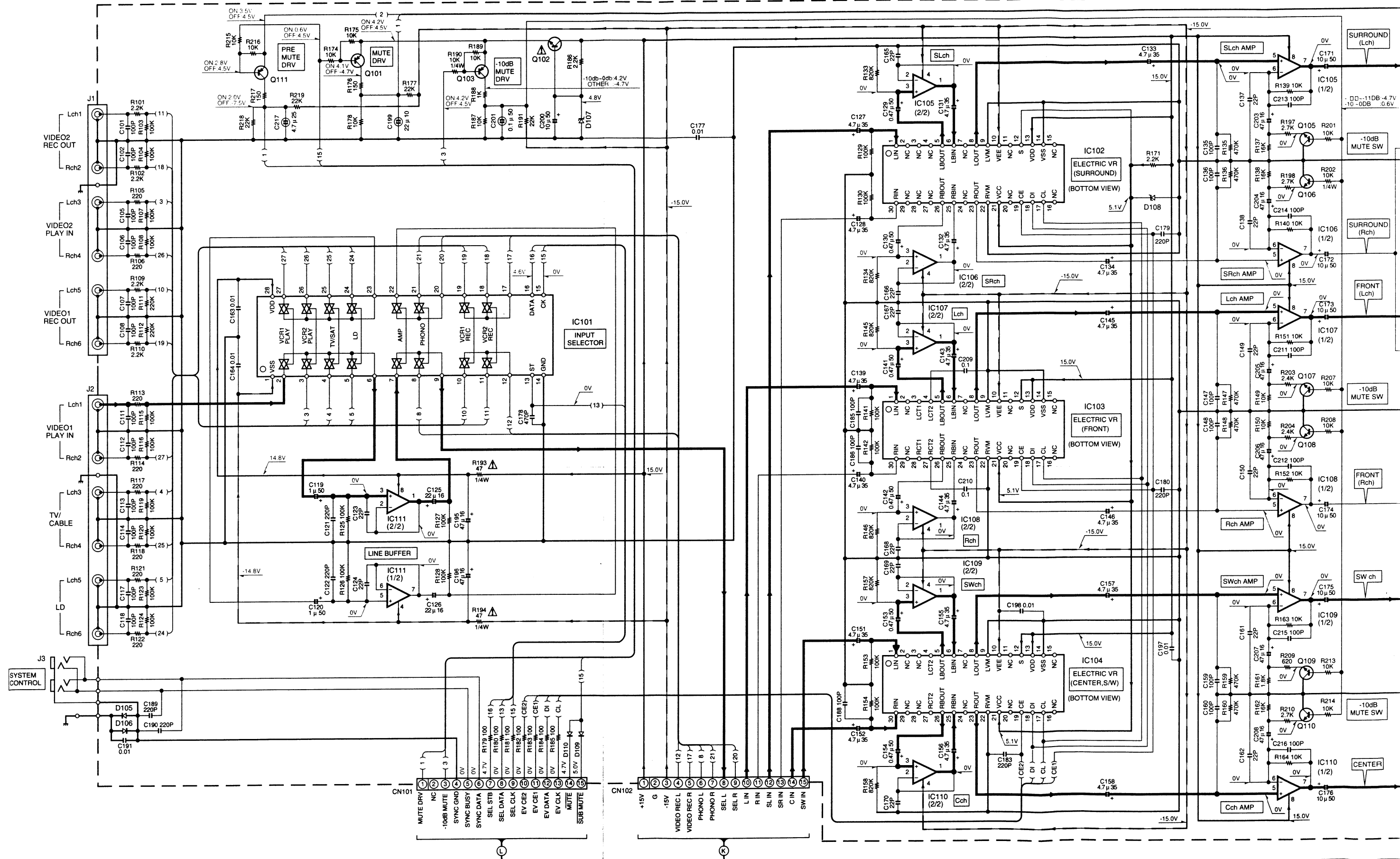
DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.

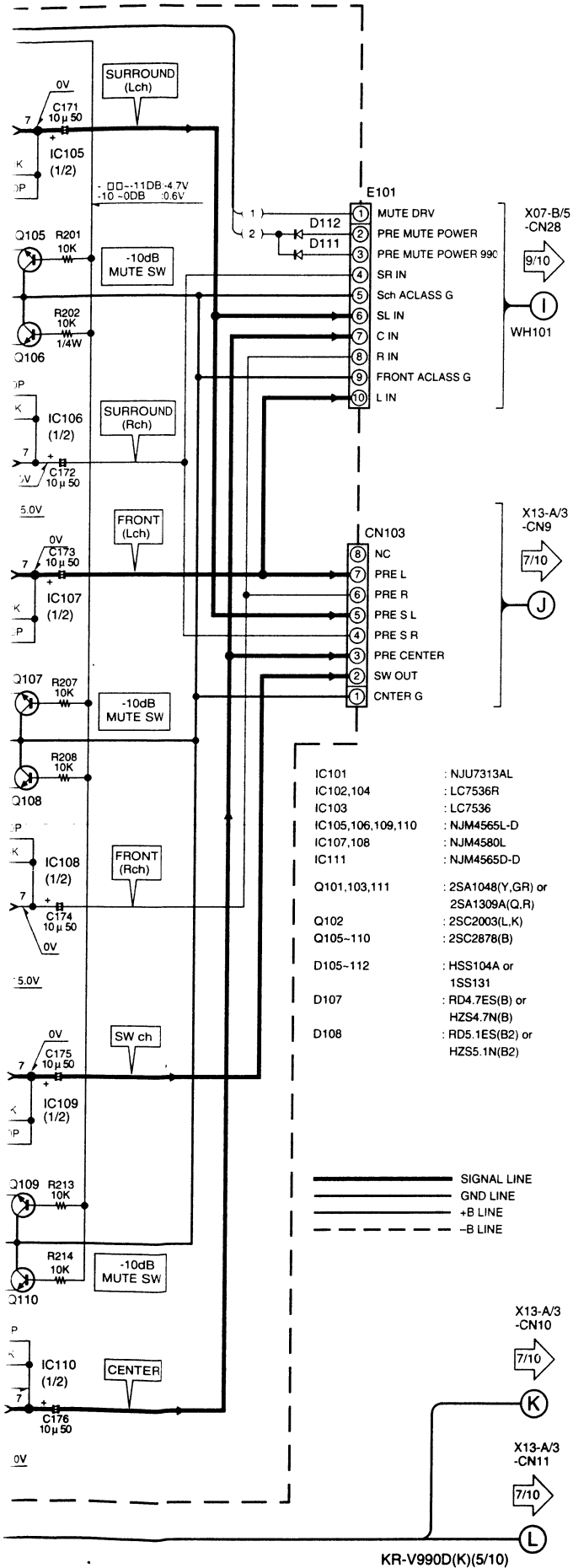
KR-V990D/V9080

KENWOOD

Y05-3070-10

SUB-CIRCUIT UNIT (X13-735X-XX)(B/3) KR-V990D ONLY



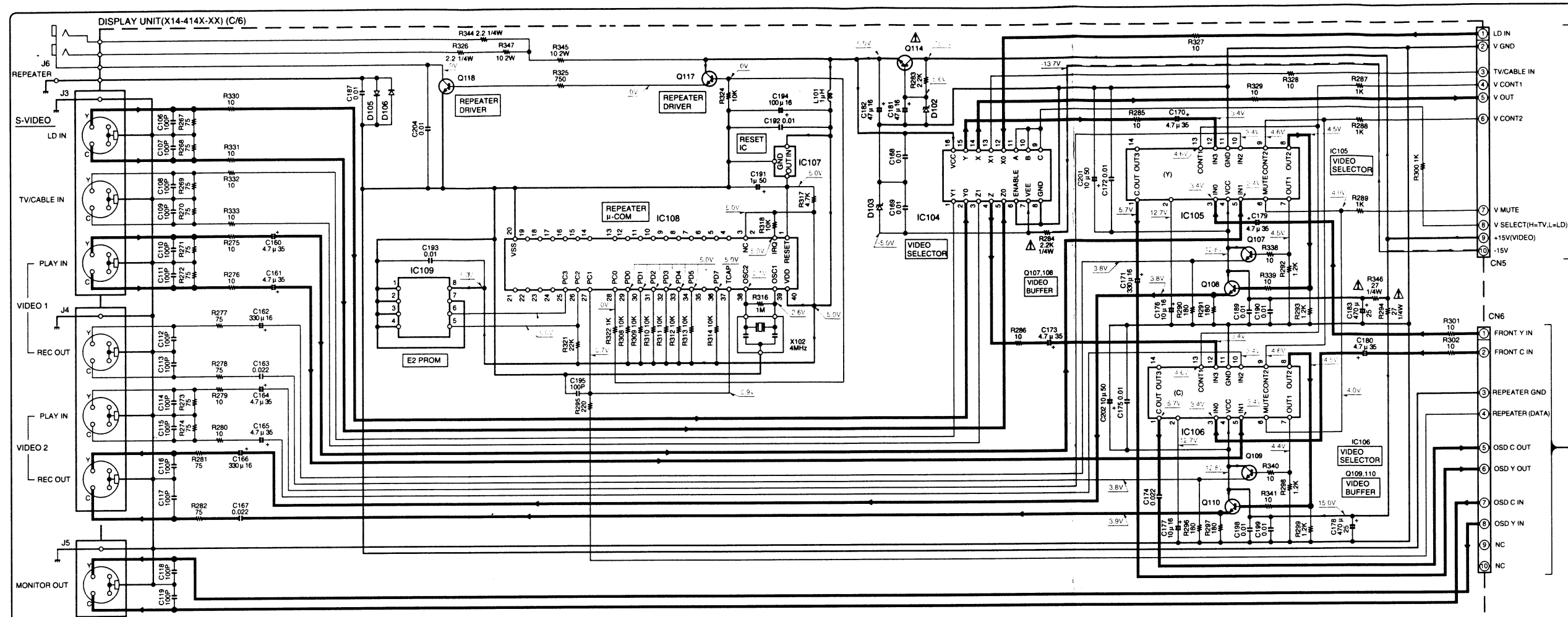


CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.



KR-V990D
(X14-414X-XX)

DESTINATION	UNIT No.	CN2	W24	W21,23,29	IC10K
U.S.A.	K				
CANADA	P				
GENERAL MARKET	M	0-10	YES	YES	NO
CHINA	X				
EUROPE	E	2-71	YES	YES	NO

KR-V9080
(X14-414X-XX)

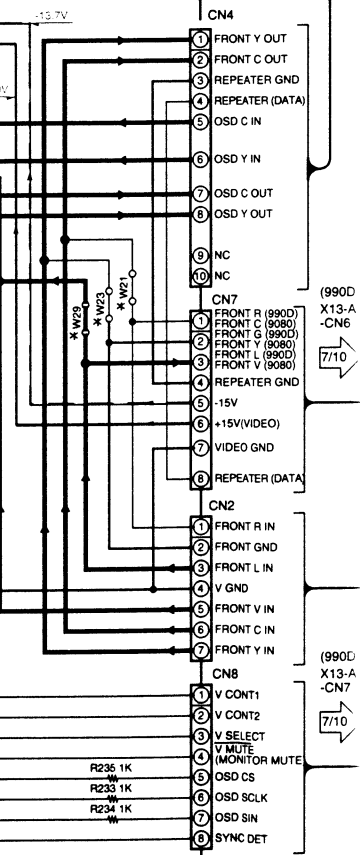
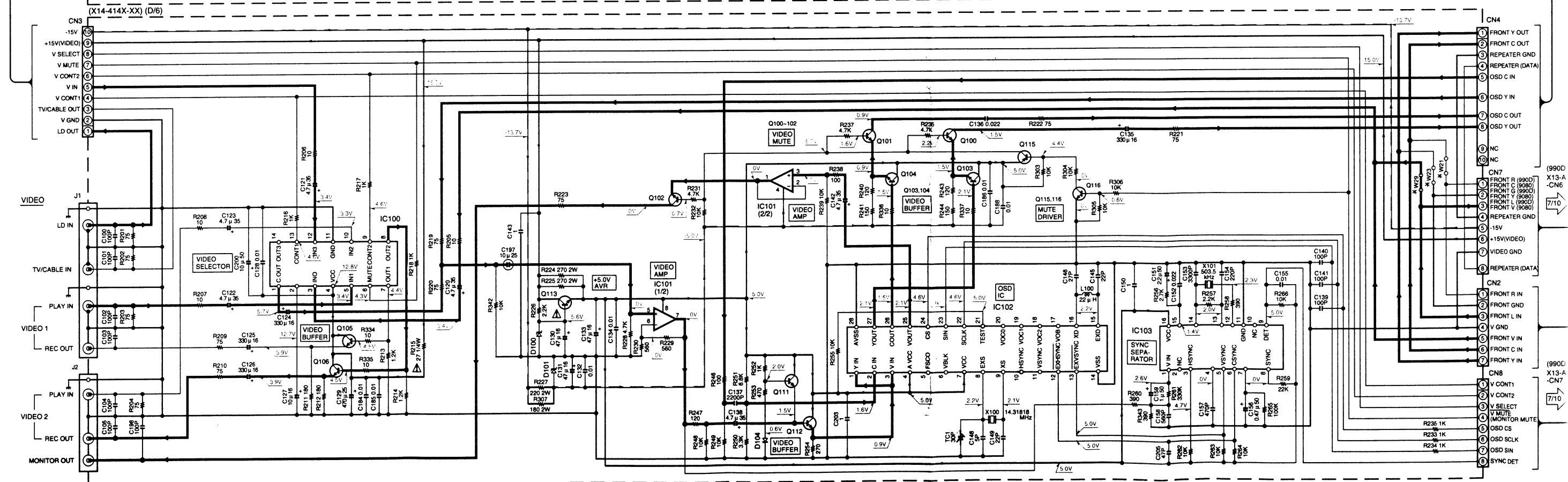
DESTINATION	UNIT No.	CN2	W24	W21,23,29	IC10K
U.S.A.	K				
CANADA	P				
GENERAL MARKET	M	0-11	NO	NO	YES
CHINA	X				
EUROPE	E				

- IC100,105,106 : LA7951
 IC101 : MC14577CP
 IC102 : M990089P/G143
 IC103 : MM1067XD
 IC104 : MC74HC4053N
 IC107 : S-806D-Z or PST993D-T
 IC108 : *
 IC109 : XL24C01AP
- Q100-102 : 2SC2878(B)
 Q103-110,112 : 2SC2003(L,K)
 Q111,116,117 : 2SC2458(Y,GR) or 2SC3311(A,Q,R)
 Q113,114 : 2SD2061 or 2SD2012
 Q115 : 2SA1045(B,GR) or 2SA1309(A,Q,R)
 Q118 : 2SC3940(A,R,S) or 2SD863(E,F)
- D100,102 : RD5.6S(B2) or HZS5.6N(B2)
 D101,103 : RD5.1ES(B2) or HZS5.1N(B2)
 D104 : 1SS131 or HSS104A
 D105,106 : 1SS133 or HSS104

IC105,106

(3)CONT1	(3)CONT2	IN	OUT
L	L	V3	V1 AND V2
L	L	V1	V2
H	L	V2	V1
H	H	TV or LD	V1 AND V2

— SIGNAL LINE
 — GND LINE
 — +5 LINE
 — -5 LINE



UNIT No.	CN2	W24	W21,23,29	IC108
0-10	YES	YES	NO	SC427202P
2-71	YES	YES	NO	SC427203P

BB	UNIT No.	CN2	W24	W21.23.29	IC108
0-11	NO	NO	YES	SC427202P	

LA7951
MC14577CP
MB90089PF-G143
MM1067XD
MC74HC4053N
S-806D-Z or PST993D-T
XL24C01AP

2SC2878(B)
2SC2003(L,K)
2SC2458(Y,GR) or 2SC3311A(Q,R)
2SD2061 or 2SD2012
2SA1048(Y,GR) or 2SA1309A(Q,R)
2SC3940A(R,S) or 2SD863(E,F)

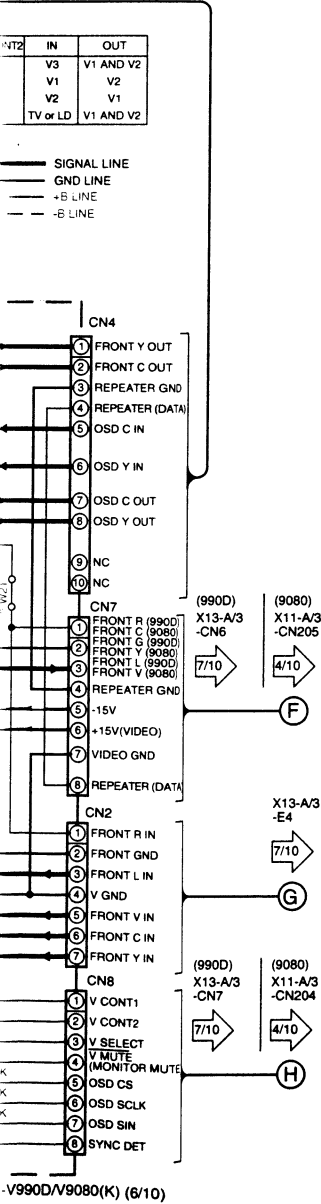
RD5.6ES(B2) or HZS5.6N(B2)
RD5.1ES(B2) or HZS5.1N(B2)
1SS131 or HSS104A
1SS133 or HSS104

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚡ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

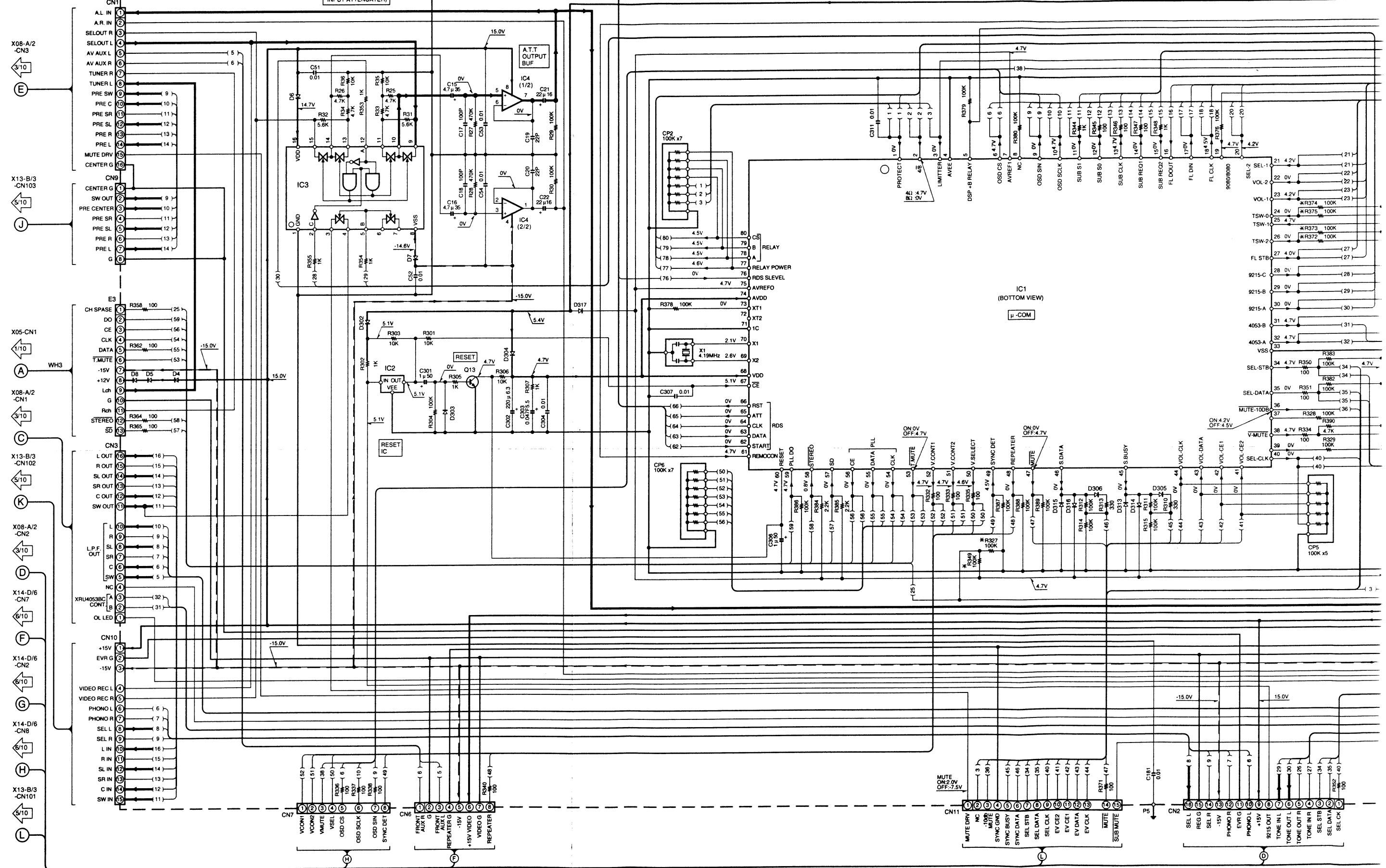
The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

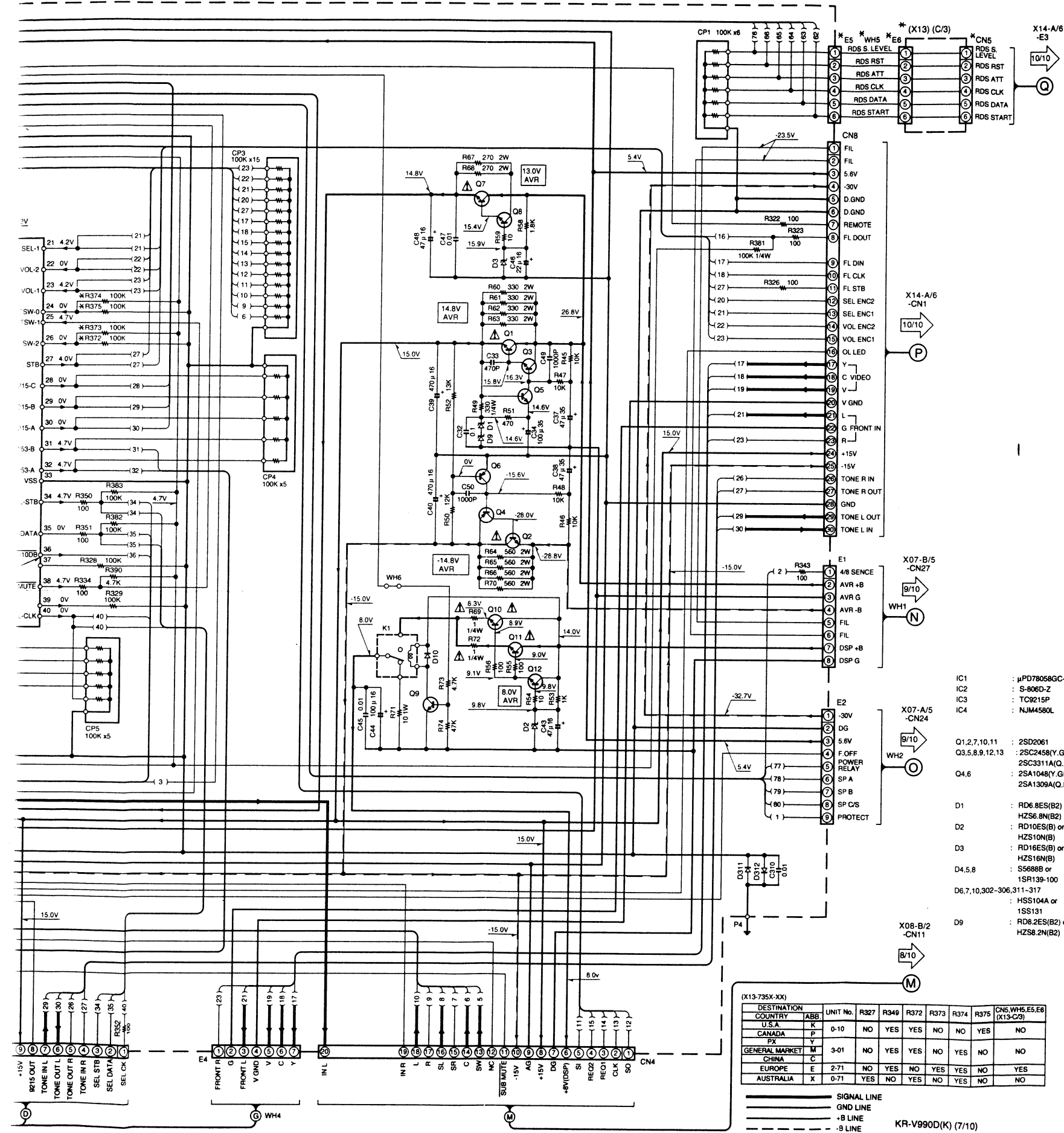
MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Noise reduction circuit made under license from Dolby Laboratories Licensing Corporation.



IC3 ANALOG SELECTOR
(S/W ON/OFF
INPUT ATTENUATER)





CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

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IC1 : μ PD78058GC-224
IC2 : S-806D-Z
IC3 : TC9215P
IC4 : NJM4580L

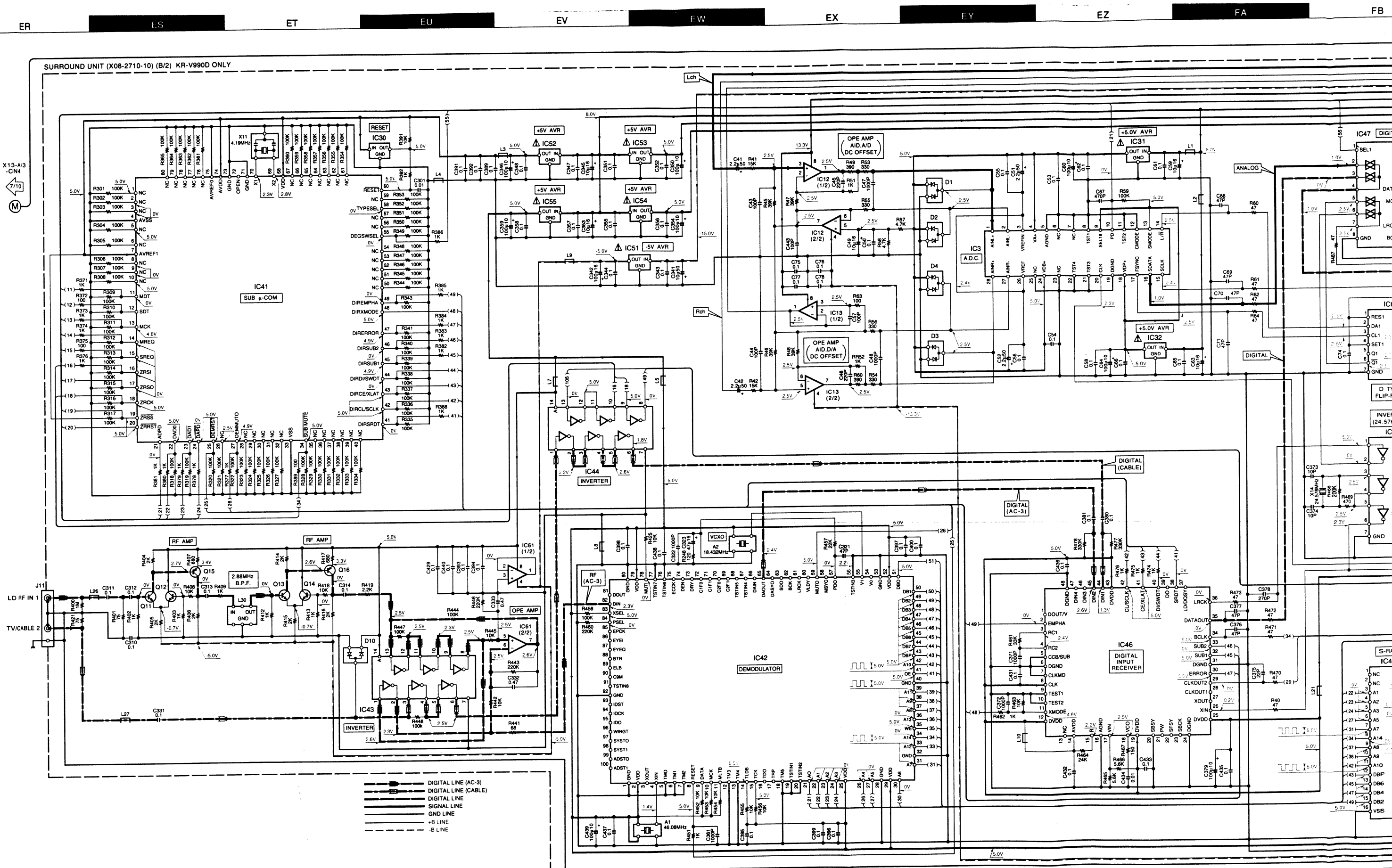
Q1,2,7,10,11 : 2SD2061
Q3,5,8,9,12,13 : 2SC2458(Y.G.R) or 2SC3311A(Q.R)
Q4,6 : 2SA1048(Y.G.R) or 2SA1309A(Q.R)

D1 : RD6.8ES(B2) or HZS6.8N(B2)
D2 : RD10ES(B) or HZS10N(B)
D3 : RD16ES(B) or HZS16N(B)
D4,5,8 : S5688B or 1SR139-100
D6,7,10,302-306,311-317 : HSS104A or 1SS131
D9 : RD8.2ES(B2) or HZS8.2N(B2)

DESTINATION	UNIT No.	R327	R349	R372	R373	R374	R375	CN5,WH5,E5,E6 (X13-C3)
COUNTRY	ABB							
U.S.A.	K	0-10	NO	YES	YES	NO	NO	YES
CANADA	P							
PX	Y							
GENERAL MARKET	M	3-01	NO	YES	YES	NO	YES	NO
CHINA	C							
EUROPE	E	2-71	NO	YES	NO	YES	YES	NO
AUSTRALIA	X	0-71	YES	NO	YES	NO	YES	NO

SIGNAL LINE
GND LINE
-B LINE
-9 LINE

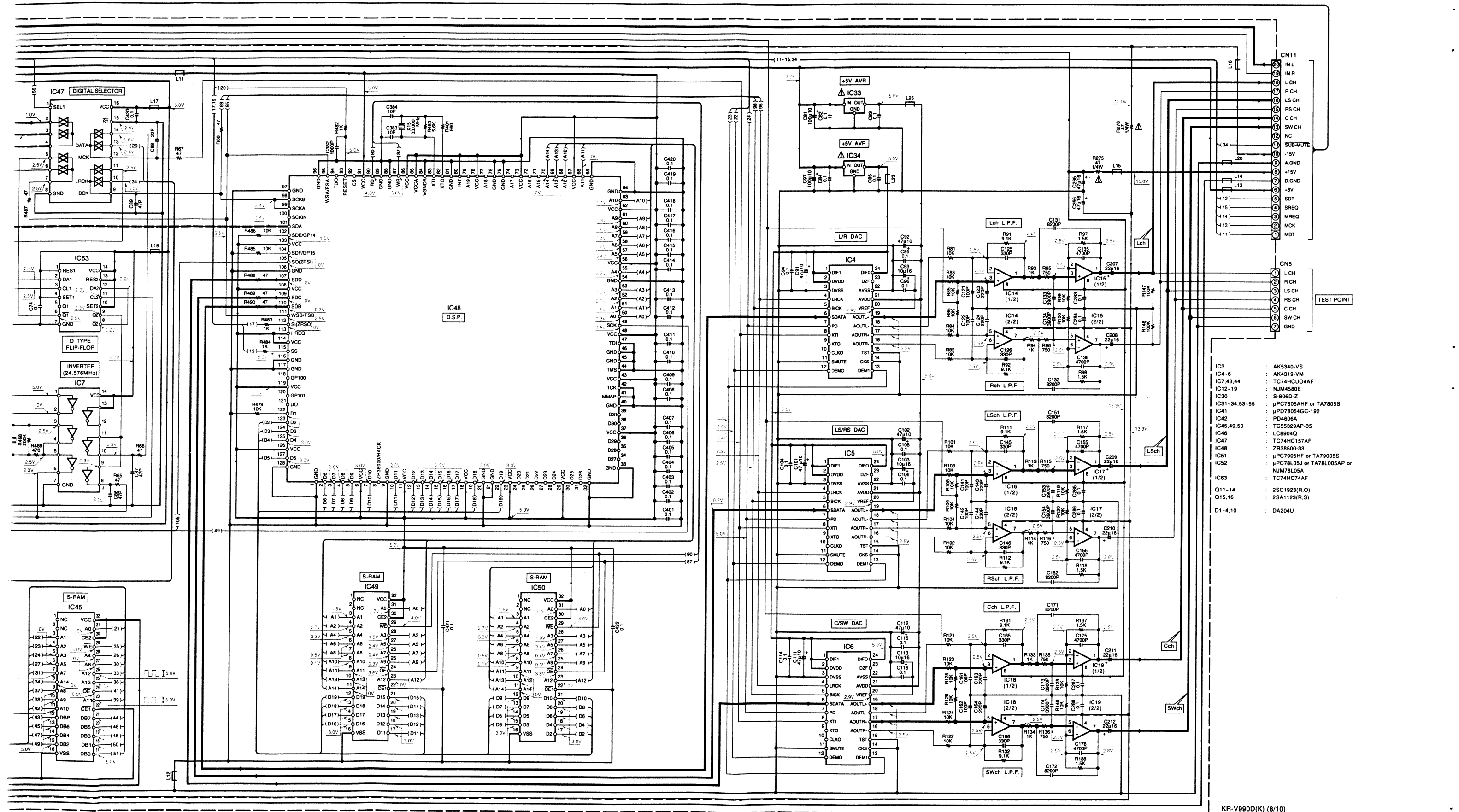
KR-V990D(K) (7/10)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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MODE	CARRIER	FRE.
FM	98MHz	
AM	100(999)kHz	4



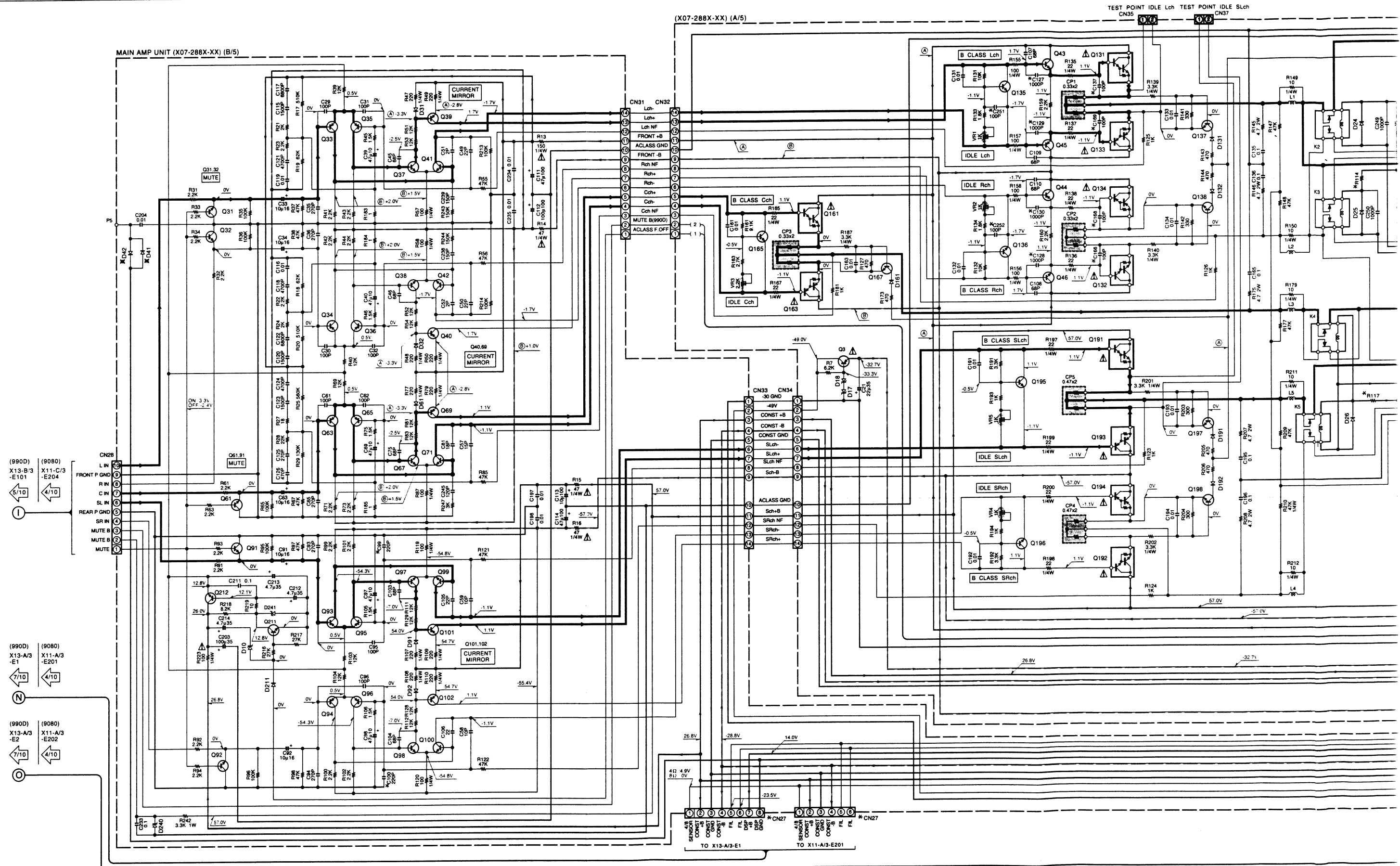
CARRIER	MODULATION		ANT INPUT
	FREQUENCY	DEVIATION	
98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
100(999)kHz	400Hz	MONO 30% MOD	60dB

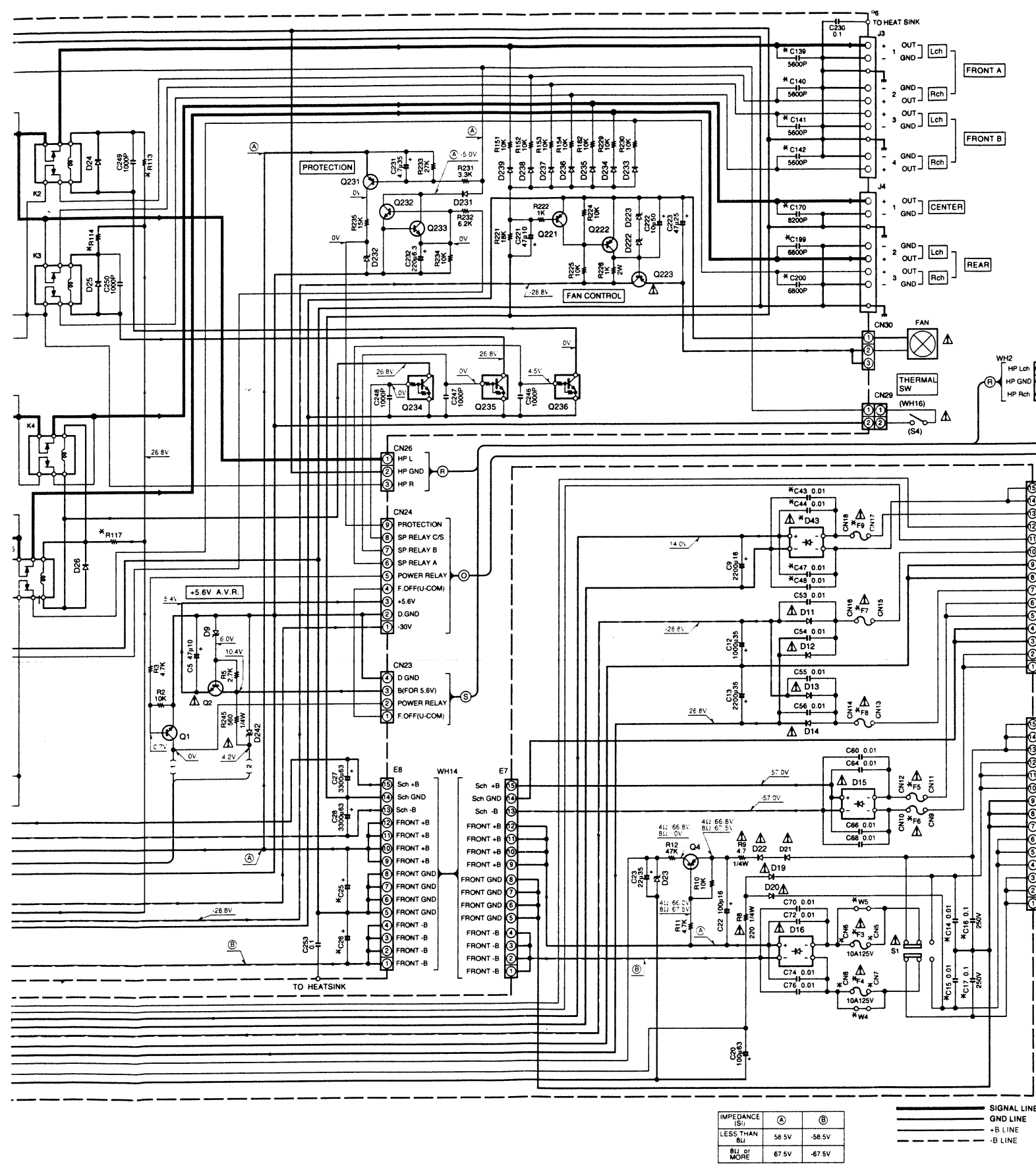
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KR-V990D-V908C

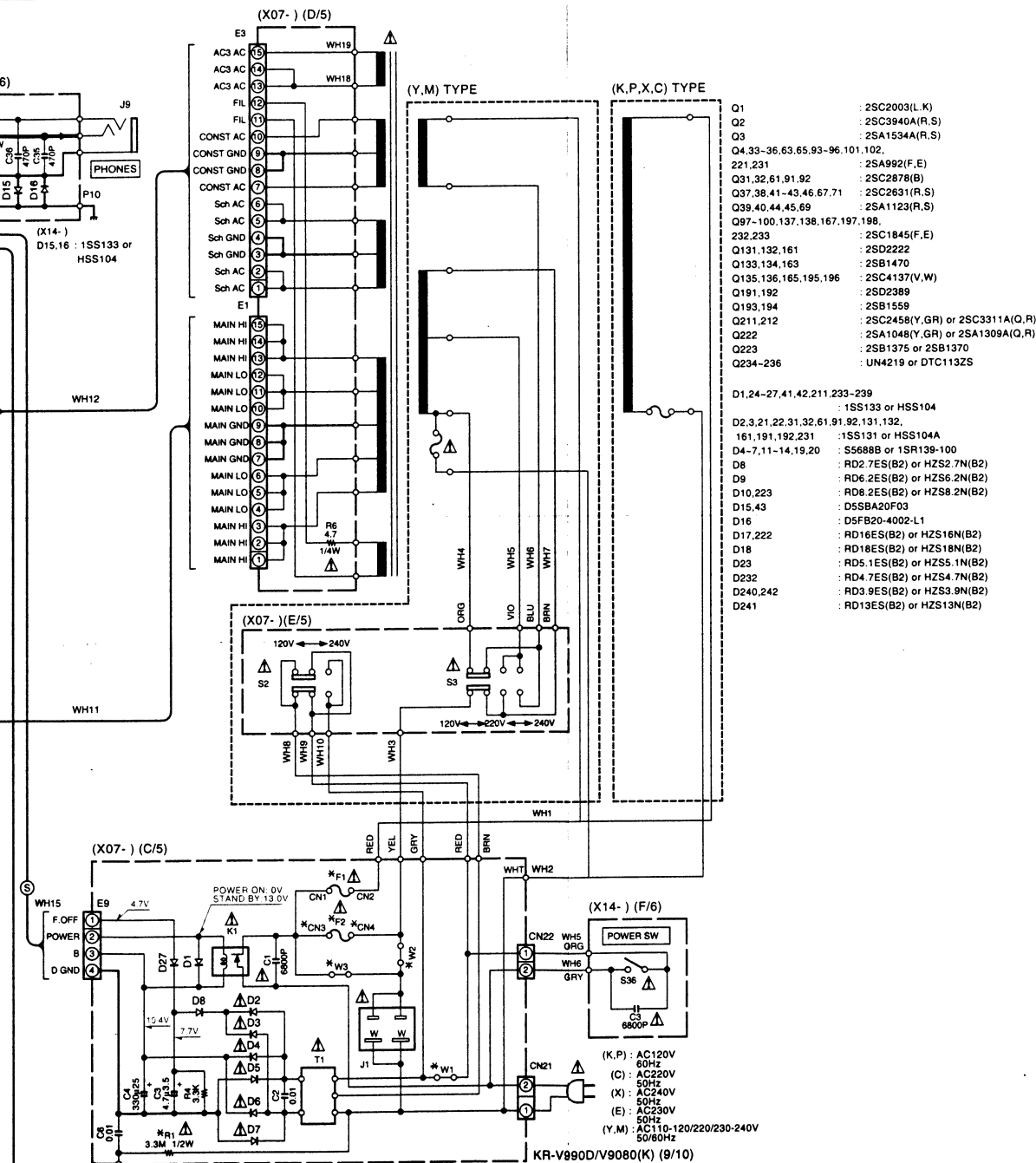
KENWOOD

Y05-3070-10



KR-V990D

DESTINATION		UNIT No.	F1	F2	F3.4	F5.6	F7.8	F9	CN3.4	CN6-8	C14 -17	C25.26	C43 44 47 48 137.166. 166 169 251.252	D99 100 139 142. 170.199.200	C127 ~130	DM1 ~43	CN27	R1	R113.114. 117	W1	W2	W3	W4.5
COUNTRY	ABB		TGA	SA	NO	YES	SA	260V	250V	NO	YES	NO											
U.S.A	K	X07-2880-10	125V	NO	YES	NO	125V	260V	250V	NO	YES	NO						YES	10 1/4W	YES	NO	YES	NO
CANADA	K																						
PK	X	X07-2882-01	T5AL 250V	T5AL 250V	NO	NO	T4AL 250V	T1.6AL 250V	T1.6AL 250V	YES	NO	NO	YES										
GENERAL MARKET	M	X07-2880-21	T5AL 250V		NO	NO	T4AL 250V	T1.6AL 250V	T1.6AL 250V	YES	NO	NO	YES										
AUSTRALIA	X	X07-2880-71	T5AL 250V	T5AL 250V	NO	NO	T4AL 250V	T1.6AL 250V	T1.6AL 250V	YES	NO	NO	YES	YES			8pin						
EUROPE	E	X07-2882-71	T5AL 250V	T2.5AL 250V	NO	NO	T4AL 250V	T1.6AL 250V	T1.6AL 250V	YES	NO	NO	YES						10 1/4W	YES	YES	NO	YES
CHINA	C	X07-2883-01	T5AL 250V		NO	NO	T4AL 250V	T1.6AL 250V	T1.6AL 250V	YES	NO	NO	YES						10 1/4W	YES	NO	YES	YES

KR-V9080[illegible]

DISPLAY UNIT (X14-414X-XX) (A/6)

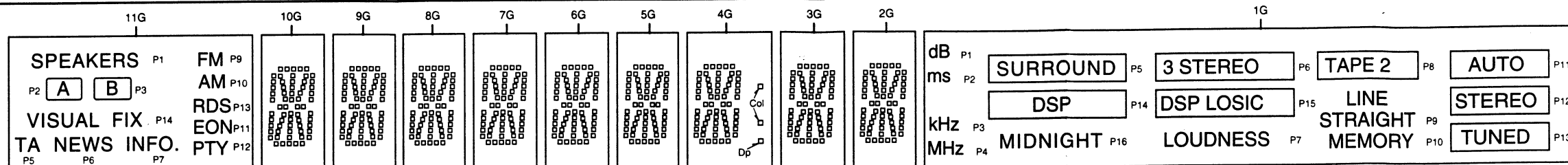
(9080)
X11-A/3
-CN201

(990D)
X13-A/3
-CN8

4/10

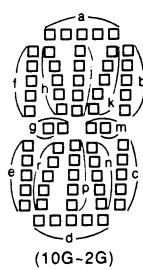
7/10

P

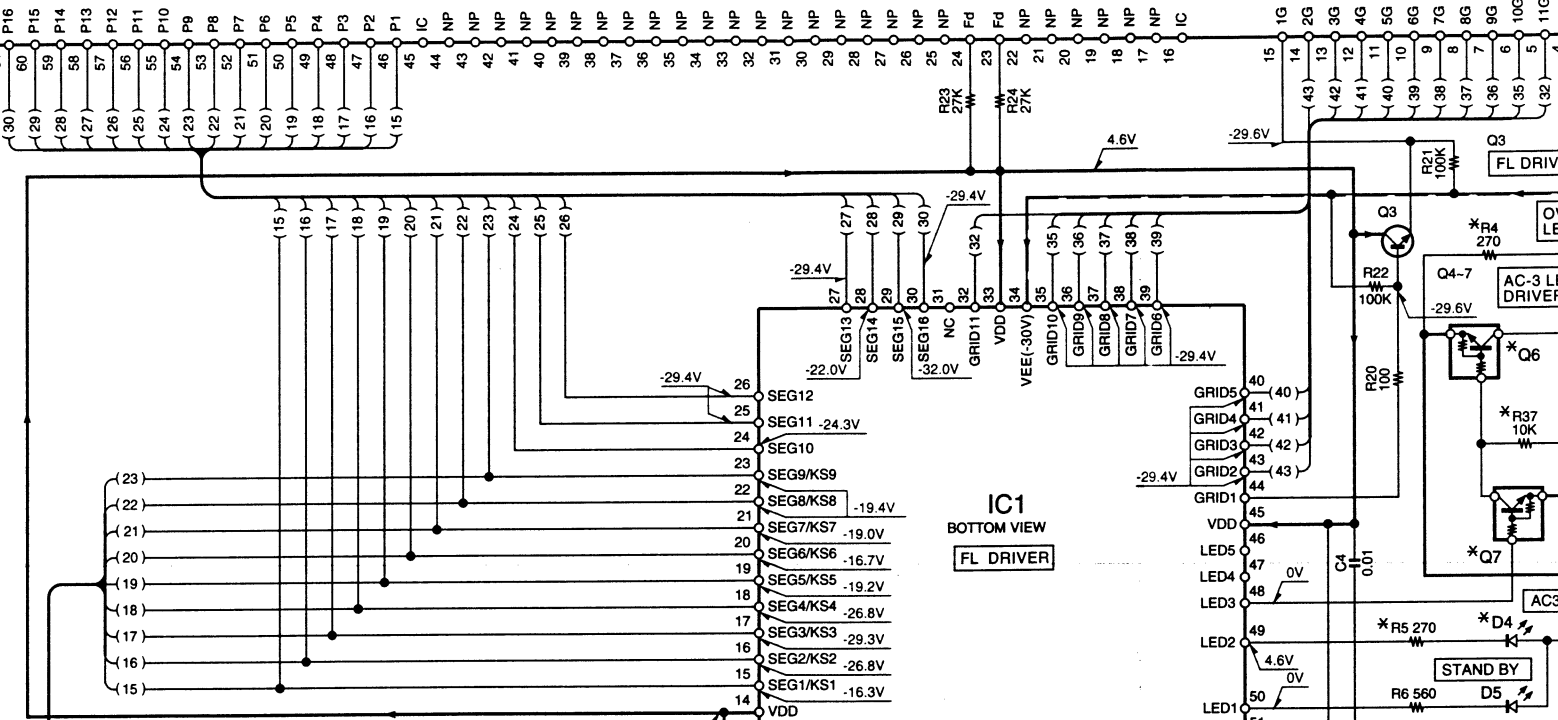


ED1

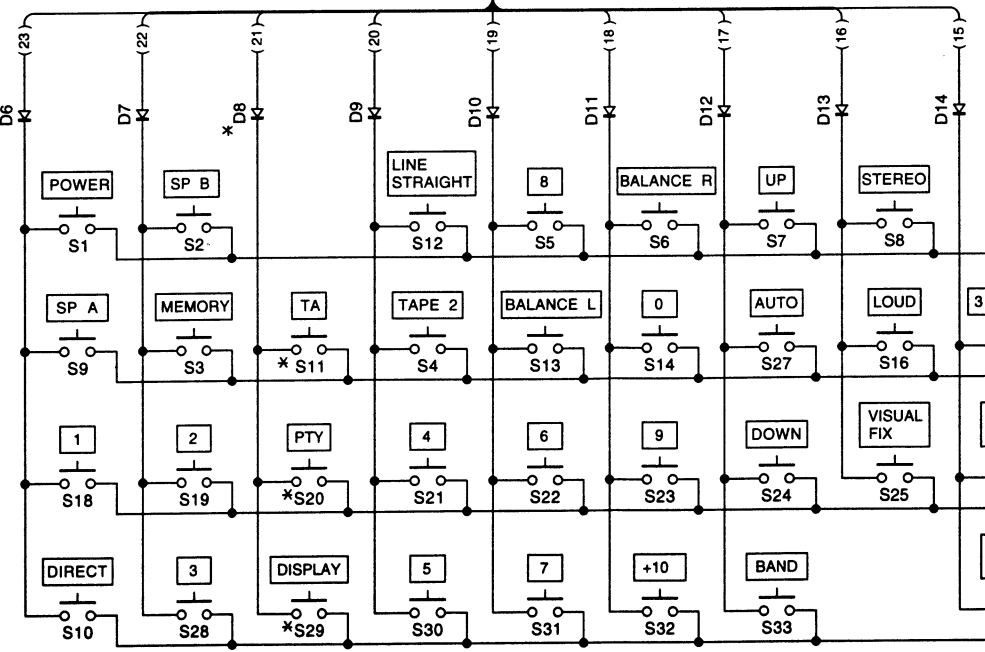
-23.5V



(10G-2G)



IC1
BOTTOM VIEW
FL DRIVER



X05-CN2

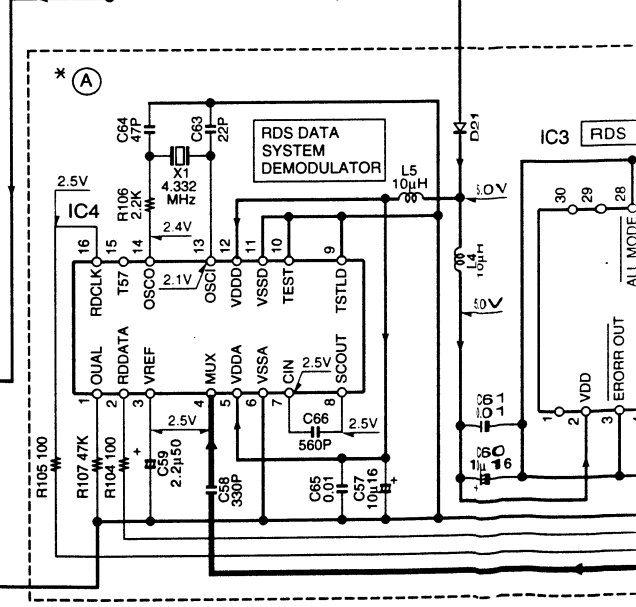
1/10

B

X13-C/3
-CN5

7/10

Q



* (A)

IC3

RDS

SYSTEM

DEMOMULATOR

IC4

RDS

SYSTEM

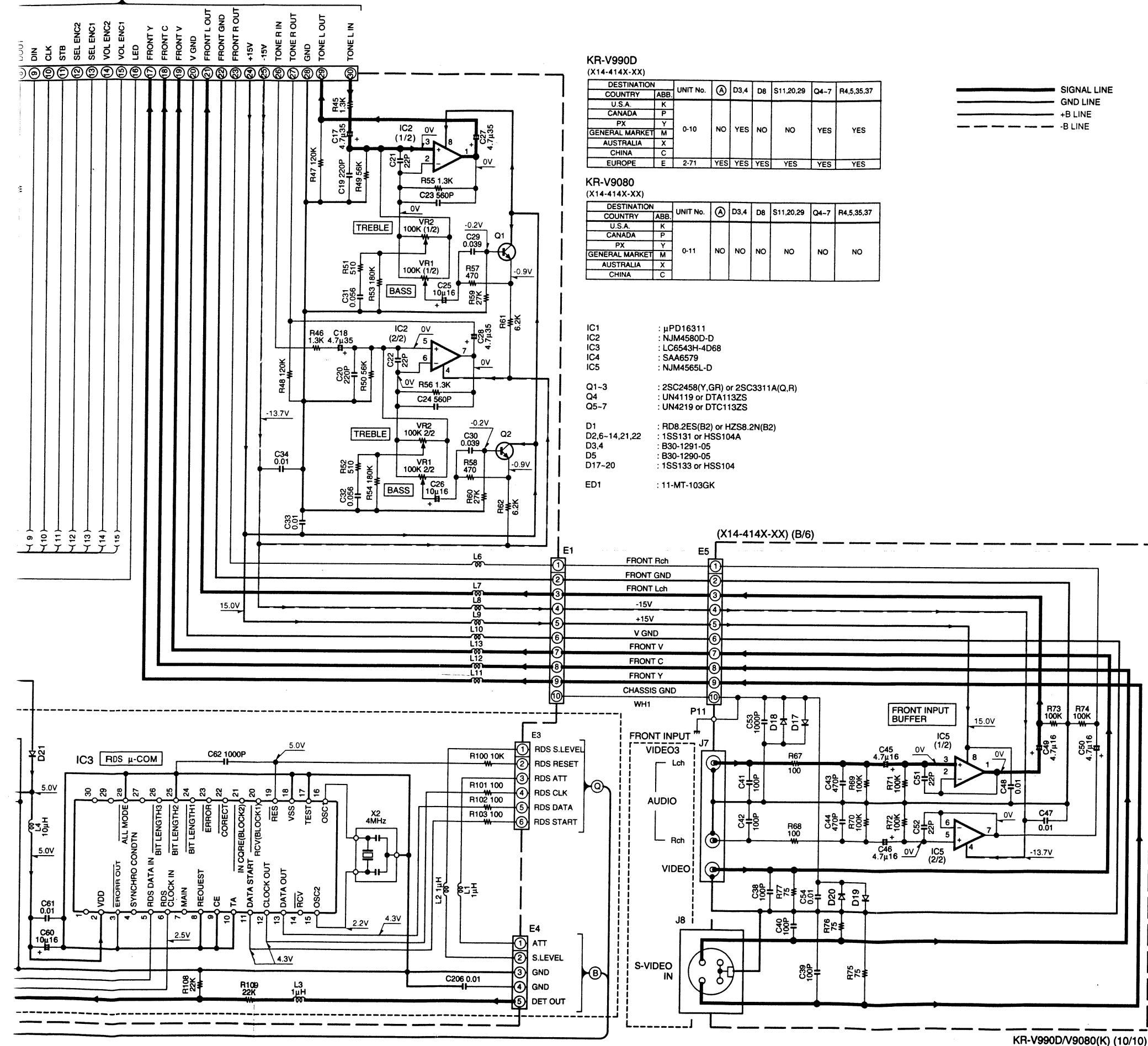
DEMOMULATOR

IC5

RDS

SYSTEM

DEMOMULATOR



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

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KR-V990D/V9080

Parts List:

Part	Part Number
A	3x8 : N89-3008-46
B	3x6 : N09-1445-05
C	3x8 (BLK) : N89-3008-45
D	2.6x8 : N82-2608-46
E	EARTH : N08-0128-35(YMCX)
F	PUSH RIVET : N29-0268-05
G	3x12 : N09-0333-05
H	3x18 : N89-3018-46
J	4x35 : N89-4035-45
K	4x8 : N89-4008-45
L	3x14 : N09-3139-05
M	4x8 : N86-4006-45
N	3x8 : N09-3093-05(KPYX)
P	3x10 : N89-3010-45(E)
Q	3x19 : N89-3010-45
R	3x8 : N09-0292-05
	3x8 : N09-2766-05

Parts with the exploded numbers larger than 700 are not supplied.

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
KR-V990D/V9080						
601	1A	*	A01-3271-01	METALLIC CABINET	YXEMC	
602	1A	*	A01-3283-01	METALLIC CABINET	KP	
603	3A	*	A09-0169-08	BATTERY COVER	KPY	D
608	3A	*	A60-0799-22	PANEL	KPY	9
608	3A	*	A60-0801-22	PANEL	KPY	9
608	3A	*	A60-0802-22	PANEL	XMC	9
608	3A	*	A60-0893-22	PANEL	E	D
609	1A	*	A70-1038-05	REMO-CON ASSY (RC-R0903)	XMC	D
615	3B	*	B01-0525-01	PANEL ESCUTCHEON	KPYXMC	D
616	3A	*	B10-0527-01	PANEL ESCUTCHEON	E	9
616	3A	*	B10-2171-02	FRONT GLASS	KPYXMC	D
616	3A	*	B10-2172-02	FRONT GLASS	E	D
617	3B	*	B10-2252-02	FRONT GLASS		
618	3A	*	B11-0295-03	COLOR FILTER		
-	-	*	B43-0302-04	KENWOOD BADGE	KY	
-	-	*	B46-0092-43	WARRANTY CARD	X	
-	-	*	B46-0096-53	WARRANTY CARD	P	
-	-	*	B46-0121-33	WARRANTY CARD	X	
-	-	*	B46-0197-00	QUESTIONNAIRE CARD	K	
-	-	*	B46-0310-03	WARRANTY CARD	E	
-	-	*	B46-0326-03	WARRANTY CARD	C	
-	-	*	B58-0964-13	CAUTION CARD (CAUTION UL)	KY	
-	-	*	B58-0965-13	CAUTION CARD (TX TYPE PL)	X	
-	-	*	B58-0966-13	CAUTION CARD (ELM TYPE PL)	EMC	
-	-	*	B58-0967-03	CAUTION CARD (P TYPE PL)	P	
-	-	*	B58-0968-04	CAUTION CARD	Y	
-	-	*	B59-1104-00	SERVICE DIRECTORY	KPYXMC	D
-	-	*	B60-2390-10	INST. MANUAL (KR-V990D EN)		
-	-	*	B60-2391-10	INST. MANUAL (KR-V990D FR)	P	D
-	-	*	B60-2392-00	INST. MANUAL (KR-V990D C)	MC	D
-	-	*	B60-2393-10	INST. MANUAL (KR-V990D SP/IT)	E	D
-	-	*	B60-2394-00	INST. MANUAL (KR-V990D TAIWAN)	M	D
-	-	*	B60-2499-10	INST. MANUAL (KR-V990D FR/D)	E	D
-	-	*	B60-2500-10	INST. MANUAL (KR-V990D GER)	KPYXMC	D
-	-	*	B60-2501-00	INST. MANUAL (KR-V990D SP)	E	D
-	-	*	B60-2503-10	I.MANUAL (CARD/KR-V990D EN)	M	D
-	-	*	B60-2503-10	I.MANUAL (CARD/KR-V990D EN)	E	D
-	-	*	B60-2505-10	I.MANUAL (CARD/KR-V990D D)	P	9
-	-	*	B60-2506-10	I.MANUAL (CARD/KR-V990D GER)	E	D
-	-	*	B60-2507-10	I.MANUAL (CARD/KR-V990D IT)	E	D
-	-	*	B60-2508-10	I.MANUAL (CARD/KR-V990D SP)	M	D
-	-	*	B60-2508-10	I.MANUAL (CARD/KR-V990D SP)	EM	D
-	-	*	B60-2509-10	I.MANUAL (CARD/KR-V990D FR)	P	D
-	-	*	B60-2509-10	I.MANUAL (CARD/KR-V990D FR)	PE	D
-	-	*	B60-2510-00	I.MANUAL (CARD/KR-V990D C)	MC	9
-	-	*	B60-2510-00	I.MANUAL (CARD/KR-V990D C)	MC	D
-	-	*	B60-2512-10	INST. MANUAL (KR-V990D EN)	P	9
-	-	*	B60-2513-10	INST. MANUAL (KR-V990D EN)	M	9
-	-	*	B60-2514-00	INST. MANUAL (KR-V990D SP)	MC	9
-	-	*	B60-2515-00	INST. MANUAL (KR-V990D C)	MC	9
-	-	*	B60-2516-00	INST. MANUAL (KR-V990D TAIWAN)	M	9

L : Scandinavia K : USA P : Canada R : Mexico D : KR-V990D
Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany 9 : KR-V9080
Y : AAFES(Europe) X : Australia M : Other Areas C : CHINA
Δ indicates safety critical components.

KR-V990D/V9080

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
620	2A		E03-0115-05	AC PLUG ADAPTER	M	
621	1D		E30-2592-15	AC POWER CORD	M	
621	1D		E30-2739-05	AC POWER CORD	Y	
621	1D		E30-2787-05	AC POWER CORD	KP	
621	1D		E30-2788-05	AC POWER CORD	E	
621	1D	*	E30-2790-05	AC POWER CORD	X	
621	1D	*	E30-2825-05	AC POWER CORD	C	
625	1D	*	F07-0769-13	COVER	KP	
626	1D	*	F09-0100-05	FAN	YXEMC	
626	1D	*	F09-0102-05	FAN	YXEMC	
627	1C	*	F20-1462-14	INSULATING BOARD		
628	2D	*	F20-1464-13	INSULATING BOARD		
630	2D		G11-0132-04	SOFT TAPE (15X10X8)		
631	3A		G11-0155-14	SOFT TAPE (40X9X2)		
632	1D		G11-1052-04	SOFT TAPE		
634	1A	*	G11-1167-04	SOFT TAPE		
-	-	*	H10-7101-12	POLYSTYRENE FOAMED FIXTURE (L)	X	
-	-	*	H10-7102-02	POLYSTYRENE FOAMED FIXTURE (R)		
-	-	*	H13-0223-04	CARTON BOARD		
-	-	*	H25-0232-04	PROTECTION BAG (235X350X0.03)		
-	-	*	H25-0661-04	PROTECTION BAG		
-	-	*	H50-1675-14	ITEM CARTON CASE (KR-V990D)	KPYXE	D
-	-	*	H50-1676-14	ITEM CARTON CASE (KR-V990D)	M	D
-	-	*	H50-1678-14	ITEM CARTON CASE (KR-V990D)	KPYX	9
-	-	*	H50-1705-14	ITEM CARTON CASE (KR-V990D)	M	9
-	-	*	H50-1884-14	ITEM CARTON CASE (KR-V990D)	C	D
-	-	*	H50-1885-14	ITEM CARTON CASE (KR-V990D)	C	9
640	3C-3D	*	J02-1147-13	FOOT		
641	3D		J19-3300-05	UNIT HOLDER		
642	3C		J19-3324-15	UNIT HOLDER		
643	2D		J19-3335-05	UNIT HOLDER		
644	1C		J19-3385-05	UNIT HOLDER		
645	3C	*	J19-3732-04	UNIT HOLDER		
649	1D	*	J42-0083-05	POWER CORD BUSHING		
652	2A	*	J69-0087-08	ADHESIVE DOUBLE-COATED TAPE		
-	-	*	J69-0088-05	WIRE BAND		
-	-	*	J61-0307-05	WIRE BAND		
655	2A	*	K37-2176-04	KNOB (BUTTON)	MC	
656	3A	*	K39-8249-04	KNOB		
657	3A	*	K29-8251-04	KNOB		
660	2A	*	L07-2038-05	POWER TRANSFORMER	KP	D
660	2A	*	L07-2039-05	POWER TRANSFORMER	Y	D
660	2A	*	L07-2040-05	POWER TRANSFORMER	E	D
660	2A	*	L07-2041-05	POWER TRANSFORMER	X	D
660	2A	*	L07-2043-05	POWER TRANSFORMER	KP	9
660	2A	*	L07-2044-05	POWER TRANSFORMER	Y	9
660	2A	*	L07-2064-05	POWER TRANSFORMER	X	9
660	2A	*	L07-2103-05	POWER TRANSFORMER	M	D
660	2A	*	L07-2104-05	POWER TRANSFORMER	M	D
660	2A	*	L07-2145-05	POWER TRANSFORMER	C	9
660	2A	*	L07-2147-05	POWER TRANSFORMER	C	9
665	2A		T90-0820-05	LOOP ANTENNA	M	

L : Scandinavia K : USA P : Canada R : Mexico D : KR-V990D
Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany 9 : KR-V9080
Y : AAFES(Europe) X : Australia M : Other Areas C : CHINA
Δ indicates safety critical components.

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
666	2A		J19-3645-05	ANTENNA STAND		
667	1A	*	T90-0810-05	JEAD WIRE ANTENNA		
670	2A	*	W02-2542-05	TRANSMITTING ASSY		
TUNER UNIT (X05-4532-75) EUROPE type only						
C1,2			CK73FB1H103K	CHIP C	0.010UF	K
C3			CE04LW1V100M	ELECTRO	10UF	35WV
C4			CK73FB1E473K	CHIP C	0.047UF	K
C5			CE04LW1V100M	ELECTRO	10UF	35WV
C6			CK73FB1E473K	CHIP C	0.047UF	K
C7			CE04LW1V100M	ELECTRO	10UF	35WV
C8			CE04LW1H010M	ELECTRO	1.0UF	50WV
C9			CE04LW1H47M	ELECTRO	0.47UF	50WV
C10			CE04LW1H2R2M	ELECTRO	2.2UF	50WV
C11			CE04LW1H47M	ELECTRO	0.47UF	50WV
C12			CK73FB1E473K	CHIP C	0.047UF	K
C13			CK73FB1H220J	CHIP C	22PF	J
C14			CE04LW1A101M	ELECTRO	100UF	10WV
C15			CK73FB1H472K	CHIP C	4700PF	K
C16			CE04LW1H010M	ELECTRO	1.0UF	50WV
C17,18			CE04LW1V100M	ELECTRO	10UF	35WV
C19,20			CQ92FM1H273J	MYLAR	0.027UF	J
C21			CK73FB1H103K	CHIP C	0.010UF	J
C22			CK73FSL1H101J	CHIP C	100PF	J
C23,24			CE04LW1H2R2M	ELECTRO	2.2UF	50WV
C25,26			CK73FB1H562K	CHIP C	5600PF	K
C27			CK73FB1E473K	CHIP C	0.047UF	K
C28			CK73FSL1H150J	CHIP C	15PF	J
C29			CE04LW1H010M	ELECTRO	0.1UF	50WV
C30			CE04LW1C470M	ELECTRO	47UF	16WV
C31			CK73FB1E473K	CHIP C	0.047UF	K
C32			CK73FB1H103K	CHIP C	0.010UF	J
C33			CK73FB1H270J	CHIP C	27PF	J
C34			CK73FB1H220J	CHIP C	22PF	J
C35,38			CK73FSL1H101J	CHIP C	100PF	J
C39			CE04LW1C470M	ELECTRO	47UF	16WV
C40			CQ92FM1H223J	MYLAR	0.022UF	J
C41			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV
C42,43			CK73FB1H103K	CHIP C	0.010UF	K
C44			CE04LW1A470M	ELECTRO	47UF	10WV
C45			CE04LW1C470M	ELECTRO	47UF	16WV
C46			CE04LW1H010M	ELECTRO	1.0UF	50WV
C47			CK73FB1H103K	CHIP C	0.010UF	K
C48			CE04LW1H010M	ELECTRO	0.010UF	K
C49			CK73FB1H103K	CHIP C	0.010UF	K
C50			CK73FB1H330J	CHIP C	33PF	J
C51,54			CK73FB1H102K	CHIP C	1000PF	J
C55			CK73FB1H222K	CHIP C	2200PF	K
C56			CK73FB1H220K	CHIP C	6.0PF	K
C57			CK73FB1H220J	CHIP C	22PF	J
C58			CK73FB1E473K	CHIP C	0.047UF	K
C60			CK73FSL1H101J	CHIP C	100PF	J
C61			C91-0745-05	CERAMIC	100PF	K
C62			CC45FSL1H020C	CERAMIC	2.0PF	K
C63			CC45SL1H101J	CERAMIC	100PF	J

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
CN1			E40-4234-05	FLAT CABLE CONNECTOR (13P)		
CN2			E40-4295-05	FLAT CABLE CONNECTOR (5P)		
J1			E70-0052-05	LOCK TERMINAL BOARD(ANTENNA)		
CF1,2			L72-0536-05	CERAMIC FILTER		
L1,2			L79-1219-05	LC FILTER		
L3			L30-0910-05	FM IFT		
L5			L79-0125-05	LC FILTER		
L6			L39-1328-05	COMBINATION COIL		
L7			L30-0467-05	AM IFT		
L8,9			L40-1091-17	SMALL FIXED INDUCTOR(10UH)		
L11			L40-1091-17	SMALL FIXED INDUCTOR(10UH,K)		
X1		*	L77-2159-05	CRYSTAL RESONATOR(7.2MHZ)		
X2			L78-0295-05	RESONATOR (456KHZ)		
R1			CK73FB2A681J	CHIP R	680	1/10W
R2			CK73FB2A332J	CHIP R	3.3K	1/10W
R3			CK73FB2A331J	CHIP R	330	1/10W
R4			CK73FB2A100J	CHIP R	10	1/10W
R5			CK73FB2A101J	CHIP R	100	1/10W
R6			CK73FB2A331J	CHIP R	330	1/10W
R7			CK73FB2A392J	CHIP R	3.9K	1/10W
R8			CK73FB2A332J	CHIP R	3.3K	1/10W
R9			CK73FB2A222J	CHIP R	2.2K	1/10W
R10			CK73FB2A473J	CHIP R	47K	1/10W
R11			CK73FB2A562J	CHIP R	5.6K	1/10W
R12			CK73FB2A302J	CHIP R	3.0K	1/10W
R13			CK73FB2A393J	CHIP R	3.9K	1/10W
R14			CK73FB2A472J	CHIP R	47K	1/10W
R15			CK73FB2A473J	CHIP R	47K	1/10W
R16			CK73FB2A104J	CHIP R	100K	1/10

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
A1			W02-2509-05	FM FRONT-END ASSY		
TUNER UNIT (X05-454X-XX) Except for EUROPE type						
C1,2			CK73FB1H103K	CHIP C		
C4			CE04LW1A470M	ELECTRO		
C5			CK73FB1H103K	CHIP C		
C8			CK73FB1H103K	CHIP C		
C10			CK73FB1H102K	CHIP C		
C11			CE04LW1H4R7M	ELECTRO		
C13			CE04LW1H010M	ELECTRO		
C14			CE04LW1H2R2M	ELECTRO		
C21,22			CQ92FM1H163J	MYLAR		YXMC
C21,22			CQ92FM1H243J	MYLAR		KP
C23			CE04LW1H010M	ELECTRO		
C24			CE04LW1H3R3M	ELECTRO		
C25			CE04LW1V100M	ELECTRO		
C27			CK73FB1E473K	CHIP C		
C28			CE04LW1V100M	ELECTRO		
C31			CE04LW1A470M	ELECTRO		
C32			CK73FB1H103K	CHIP C		
C33			CK73FB1H1270J	CHIP C		
C34			CK73FB1H220J	CHIP C		
C35-38			CK73FB1H471K	CHIP C		
C39			CE04LW1C470M	ELECTRO		
C40			CK73FB1H223K	CHIP C		
C41			CE04LW1H010M	ELECTRO		
C42,43			CK73FB1H103K	CHIP C		
C50			C91-0769-05	CERAMIC		
C51			CE04LW1H010M	ELECTRO		
C52			CE04LW1C470M	ELECTRO		
C57			CK73FSL1H220J	CHIP C		
C65			CE04LW1H010M	ELECTRO		
C66			CK73FB1H102K	CHIP C		
C71			CE04LW1V100M	ELECTRO		
C72			CE04LW1C470M	ELECTRO		
C103-106			CK73FB1H473K	CHIP C		
C107			CK73FB1H101J	CHIP C		
C112			CK73FSL1H101J	CHIP C		
C114			CK73FB1H681K	CHIP C		
C115,116			CK73FSL1H101J	CHIP C		
C121,122			CE04LW1C470M	ELECTRO		
C135,136			CQ92FM1H682J	MYLAR		
C182			CK73FSL1H150J	CHIP C		
CN1			E40-4234-05	FLAT CABLE CONNECTOR (13P)		
J1			E70-0052-05	LOCK TERMINAL BOARD (ANTENNA)		
CF1,2			L72-0531-05	CERAMIC FILTER		
CF3			L72-0574-05	CERAMIC FILTER		
L7			L30-0467-05	AM IFT		
L10			L40-1091-17	SMALL FIXED INDUCTOR (1UH)		
L11			L40-1021-14	SMALL FIXED INDUCTOR (1.0MH,K)		
L12			L40-1091-17	SMALL FIXED INDUCTOR (1UH)		
L103			L39-1328-05	COMBINATION COIL		
L106			L40-1091-17	SMALL FIXED INDUCTOR (1UH)		
X1			L77-2159-05	CRYSTAL RESONATOR (7.2MHZ)		
X2			L79-0295-05	RESONATOR (456KHZ)		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R51			RK73FB2A181J	CHIP R		
R52			RK73FB2A104J	CHIP R		
R53			RK73FB2A103J	CHIP R		
R54,55			RK73FB2A223J	CHIP R		
R56			RK73FB2A104J	CHIP R		
R57			RK73FB2A473J	CHIP R		
R58			RK73FB2A104J	CHIP R		
R61			RK73FB2A123J	CHIP R		
R62			RK73FB2A123J	CHIP R		
R63			RK73FB2A123J	CHIP R		
R64			RK73FB2A123J	CHIP R		
R65			RK73FB2A683J	CHIP R		
R66			RK73FB2A473J	CHIP R		
R67			RK73FB2A104J	CHIP R		
R69			RK73FB2A102J	CHIP R		
R70			RK73FB2A104J	CHIP R		
R71			RK73FB2A102J	CHIP R		
R77			RK73FB2B103J	CHIP R		
R78			RD14NB2E470J	RD		
R79			RS14KB3D221J	FL-PROOF RS		
R81			RK73FB2A563J	CHIP R		
R84			RK73FB2A101J	CHIP R		
W101-106			R92-0670-05	CHIP R		
W108-112			R92-0670-05	CHIP R		
W114-119			R92-0670-05	CHIP R		
W121,122			R92-0670-05	CHIP R		
W201-203			R92-0679-05	CHIP R		
W207,208			R92-0679-05	CHIP R		
D1,2			HSS104	DIODE		
D1,2			1SS133	DIODE		
D3			HZS5.1N(B2)	ZENER DIODE		
D3			RD5.1ES(B2)	ZENER DIODE		
D4			HZS8.2N(B2)	ZENER DIODE		
D4			RD8.2ES(B2)	ZENER DIODE		
D5			HSS104	DIODE		
D5			1SS133	DIODE		
D6			HZS3.3N(B2)	ZENER DIODE		
D6			RD3.3ES(B2)	ZENER DIODE		
D7			MA111	DIODE		
D8			1SS268	DIODE		
D9			MA111	DIODE		
IC1			LA1836	ANALOGUE IC		
IC2			LC7218	IC(PLL FREQUENCY SYNTHESIZER)		
IC3			M5223P	IC(OP AMP X2)		
Q1			2SC2714(R,O)	TRANSISTOR		
Q2			2SC1845(F,E)	TRANSISTOR		
Q3-5			2SC4081(R,S)	TRANSISTOR		
Q7,8			2SA1576(R,S)	TRANSISTOR		
Q9			2SD863(E,F)	TRANSISTOR		
Q10			2SA1576(R,S)	TRANSISTOR		
Q11,12			2SD1757K	TRANSISTOR		
Q16			2SC4081(R,S)	TRANSISTOR		
Q17			2SA1576(R,S)	TRANSISTOR		
Q18			2SC4081(R,S)	TRANSISTOR		

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
O1			2SC2714(R,O)	TRANSISTOR		
O2			2SC1845(F,E)	TRANSISTOR		
O3			2SC2389S(S,E)	TRANSISTOR		
O4			2SC1740S(Q,R)	TRANSISTOR		
O5			2SC2785(F,E)	TRANSISTOR		
O7			2SC2412K	TRANSISTOR		
O11			2SD863(E,F)	TRANSISTOR		
O12			2SA1037K	TRANSISTOR		
O104			2SA1037K	TRANSISTOR		
O107,108			2SC2412K	TRANSISTOR		
O109,110			2SC2412K	TRANSISTOR		
O111			2SA1037K	TRANSISTOR		
DT1			W02-2512-05	FM FRONT-END ASSY		
MAIN AMP UNIT (X07-288X-XX)						
C1			C91-1488-05	MF		
C2			CK45FF1H103Z	CERAMIC		
C3			CE04KW1V4R7M	ELECTRO		
C4			CE04DW1E331M	ELECTRO		
C5			CE04KW1A470M	ELECTRO		
C6			CK45FF1H103Z	CERAMIC		
C9		*	C90-3379-05	ELECTRO		
C12			CE04KW1V122M	ELECTRO		
C13			CE04KW1V220M	ELECTRO		
C14,15			C91-1416-05	MP		
C16,17			C91-1422-05	MP		
C20			CE04DW1J101M	ELECTRO		
C21			CE04KW1V220M	ELECTRO		
C22			CE04KW1C101M	ELECTRO		
C23			CE04KW1V220M	ELECTRO		
C25,26		*	C90-3609-05	ELECTRO		
C25,26		*	C90-3610-05	ELECTRO		
C27,28		*	C90-3611-05	ELECTRO		
C29,32		*	CQ93FMG1H101K	MYLAR		
C33,34		*	CE04KW1C100M	ELECTRO		
C35,36			CC45FSL1H271J	CERAMIC		
C39,40			CE04KW1A470M	ELECTRO		
C43,44			CK45FF1H103Z	CERAMIC		
C45,46			CC45FSL1H680J	CERAMIC		
C47,48			CK45FF1H103Z	CERAMIC		
C49,50		*	CC45FSL1H220J	CERAMIC		
C51,52			CC45FSL2H020C	CERAMIC		
C53,56			CK45FF1H103Z	CERAMIC		
C57			CC45FSL1H150J	CERAMIC		
C58,59			CC45FSL1H100D	CERAMIC		
C60		*	CK45FE2H103P	CERAMIC		
C61,62			CC93FMG1H101K	MYLAR		
C63			CE04KW1C100M	ELECTRO		
C64			CK45FE2H103P	CERAMIC		
C65			CC45FSL1H271J	CERAMIC		
C66			CK45FE2H103P	CERAMIC		
C68			CK45FE2H103P	CERAMIC		
C69			CE04KW1A470M	ELECTRO		
C70			CK45FE2H103P	CERAMIC		
C72			CK45FE2H103P	CERAMIC		

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
R1			RK73FB2A681J	CHIP R	1/10W	
R2			RK73FB2A332J	CHIP R	1/10W	
R3			RK73FB2A331J	CHIP R	1/10W	
R4			RK73FB2A470J	CHIP R	1/10W	
R6			RK73FB2A331J	CHIP R	1/10W	
R11			RS14KB3A820J	FL-PROOF RS	1W	
R15			RK73FB2A391J	CHIP R	1/10W	
R19			RK73FB2A332J	CHIP R	1/10W	
R21,22			RK73FB2A393J	CHIP R	1/10W	
R24			RK73FB2A102J	CHIP R	1/10W	
R25			RK73FB2A103J	CHIP R	1/10W	
R31			RS14KB3D221J	FL-PROOF RS	2W	
R32,37			RK73FB2A102J	CHIP R	1/10W	
R38			RK73FB2A221J	CHIP R	1/10W	
R39			RK73FB2A822J	CHIP R	1/10W	
R40			RK73FB2A102J	CHIP R	1/10W	
R42			RD14NB2E101J	RD	1/4W	
R43			RK73FB2A103J	CHIP R	1/10W	
R52			RK73FB2A472J	CHIP R	1/10W	
R64			RK73FB2A104J	CHIP R	1/10W	
R101,102			RK73FB2A333J	CHIP R	1/10W	
R105,106			RK73FB2A123J	CHIP R	1/10W	
R111			RD14NB2E470J	RD	1/4W	
R118			RK73FB2A122J	CHIP R	1/10W	
R119			RK73FB2A123J	CHIP R	1/10W	
R122			RK73FB2A122J	CHIP R	1/10W	
R123			RK73FB2A123J	CHIP R	1/10W	
R124			RK73FB2A103J	CHIP R	1/10W	
R125,126			RK73FB2A332J	CHIP R	1/10W	
R127,128			RD14NB2E101J	RD	1/4W	
R131,132			RK73FB2A393J	CHIP R	1/10W	
R138,139			RK73FB2A561J	CHIP R	1/10W	
R140,141			RK73FB2A473J	CHIP R	1/10W	
R151			RK73FB2A821J	CHIP R	1/10W	
R152			RK73FB2A473J	CHIP R	1/10W	
R153			RK73FB2A472J	CHIP R	1/10W	
R156,157			RK73FB2A102J	CHIP R	1/10W	
R167			RK73FB2A104J	CHIP R	1/10W	
W46			R92-0670-05	0 OHM		
W48			R92-0670-05	0 OHM		
S101			S62-0034-05	SLIDE SWITCH (DE-EMPHASIS)		
D3			HZS5,1N(B2)	ZENER DIODE		
D3			RD5,1ES(B2)	ZENER DIODE		
D4			HZS3,3N(B2)	ZENER DIODE		
D4			RD3,3ES(B2)	ZENER DIODE		
D7			MA111	DIODE		
D8			HSS104	DIODE		
D8			1SS133	DIODE		
D11			HZS8,2N(B2)	ZENER DIODE		
D11,112			MA111	ZENER DIODE		
IC1			LA1831A-KEN	ANALOGUE IC		
IC2			LC7218	IC(PLL FREQUENCY SYNTHESIZER)		
IC12			NJM4565D	IC(OP AMP X2)		

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C232		CE04KW0221M	ELECTRO		
C233		CO93FMG1H104J	MYLAR		
C234,235		CK45FE2H103P	CERAMIC		
C238,239		CO93FMG1H151K	MYLAR		
C245		CO93FMG1H121K	MYLAR		
C246-250		CO93FMG1H102J	MYLAR		
C251,252		CO93FMG1H101K	MYLAR		
C253		CO93FMG1H104J	MYLAR		
CN21		E40-4245-05	PIN ASSY		
CN22		E40-3385-05	PIN ASSY		
CN23		E40-4294-05	FLAT CABLE CONNECTOR (4P)		
CN24		E40-4807-05	PIN ASSY		
CN26		E40-4293-05	FLAT CABLE CONNECTOR (3P)		
CN27		E40-4233-05	FLAT CABLE CONNECTOR (8P)		
CN28		E40-4296-05	FLAT CABLE CONNECTOR (8P)		
CN29		E40-4284-05	FLAT CABLE CONNECTOR (10P)		
CN30		E40-3246-05	PIN ASSY		
CN31		E40-3247-05	PIN ASSY		
CN32		E40-9830-05	SOCKET FOR PIN ASSY (14P)		
CN33		E40-9847-05	PIN ASSY		
CN34		E40-9830-05	SOCKET FOR PIN ASSY (14P)		
CN35		E40-9847-05	PIN ASSY		
CN37		E40-0211-05	PIN ASSY		
Δ J1		E40-0211-05	PIN ASSY		
Δ J1		E03-0148-05	AC OUTLET		
Δ J1		E03-0149-05	AC OUTLET		
Δ J1		E03-0325-05	AC OUTLET		
Δ J1		E03-0330-05	AC OUTLET		
J3		E70-0018-05	SCREW TERMINAL BOARD(FRONT A,B)		
J4		E70-0063-05	SCREW TERMINAL BOARD(CENT/REAR)		
J4		E70-0049-05	SCREW TERMINAL BOARD(CENT/REAR)		
J4		E70-0064-05	SCREW TERMINAL BOARD(CENT/REAR)		
687		F20-1322-15	INSULATING BOARD		
Δ F1		F05-5025-05	FUSE (SEMKO)		
Δ F1		F05-5025-05	FUSE (SEMKO)		
Δ F2		F05-5025-05	FUSE (SEMKO)		
Δ F2		F05-5025-05	FUSE (SEMKO)		
Δ F3,4		F05-4025-05	FUSE (SEMKO)		
Δ F5,6		F05-4025-05	FUSE (SEMKO)		
Δ F7,8		F05-4025-05	FUSE (SEMKO)		
Δ F7,8		F05-1623-05	FUSE (SEMKO)		
Δ F9		F05-1623-05	FUSE (SEMKO)		
Δ F9		F05-1628-05	FUSE (UL)		
CN1,2		J13-0075-05	FUSE CLIP		
CN3,4		J13-0075-05	FUSE CLIP		
CN5-8		J13-0075-05	FUSE CLIP		
CN9-16		J13-0075-05	FUSE CLIP		
CN17,18		J13-0075-05	FUSE CLIP		
J11-13		J11-0808-05	WIRE CLAMPER		
L1-5		L39-0085-05	PHASE COMPENSATION COIL		
Δ T1		L07-0864-05	POWER TRANSFORMER		
Δ T1		L07-0865-05	POWER TRANSFORMER		

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C74		CK45FE2H103P	CERAMIC		
C75		CK45FSL1H680J	CERAMIC		
C76		CK45FE2H103P	CERAMIC		
C81		CC45FSL2H180J	CERAMIC		
C91,92		CE04KW1C100M	ELECTRO		
C93,94		CC45FSL1H271J	CERAMIC		
C95,96		CC45FSL1H101J	CERAMIC		
C97,98		CE04KW1A470M	ELECTRO		
C99,100		CC45FSL1H221J	CERAMIC		
C103,104		CC45FSL1H680J	CERAMIC		
C105,106		CC45FSL2H220J	CERAMIC		
C107-110		CC45FSL2H680J	CERAMIC		
C111		CE04KW2A470M	ELECTRO		
C112		CE04KW2A101M	ELECTRO		
C113		CE04KW2A100M	ELECTRO		
C114		CE04KW2A470M	ELECTRO		
C115		CO93FMG1H152J	MYLAR		
C116		CO93FMG1H103J	MYLAR		
C117		CO93FMG1H682J	MYLAR		
C118		CO93FMG1H472J	MYLAR		
C119		CO93FMG1H103J	MYLAR		
C120		CO93FMG1H152J	MYLAR		
C121		CO93FMG1H472J	MYLAR		
C122		CO93FMG1H682J	MYLAR		
C123		CO93FMG1H152J	MYLAR		
C124		CO93FMG1H472J	MYLAR		
C125		CO93FMG1H271K	MYLAR		
C126		CO93FMG1H471J	MYLAR		
C127-130		CC45FSL1H101J	CERAMIC		
C131-134		CK45FF1H103Z	CERAMIC		
C135,136		CO93FMG1H104J	MYLAR		
C137		CC45FSL1H101J	CERAMIC		
C139-142		CO93FMG1H101K	MYLAR		
C161		CK45FF1H103Z	CERAMIC		
C163		CK45FF1H103Z	CERAMIC		
C165		CO93FMG1H104J	MYLAR		
C166		CC45FSL1H101J	CERAMIC		
C168,169		CO93FMG1H101K	MYLAR		
C168,169		CO93FMG1H101K	MYLAR		
C170		CO93FMG1H822J	MYLAR		
C191-194		CK45FF1H103Z	CERAMIC		
C195,196		CO93FMG1H104J	MYLAR		
C197,198		CK45FE2H103P	CERAMIC		
C199,200		CO93FMG1H682J	MYLAR		
C203		CE04KW1V101M	ELECTRO		
C204		CK45FF1H103Z	CERAMIC		
C211		CO93FMG1H104J	MYLAR		
C212-214		CE04KW1V470M	ELECTRO		
C221		CE04KW1A470M	ELECTRO		
C222		CE04KW1H100M	ELECTRO		
C223		CE04KW1E470M	ELECTRO		
C230		CO93FMG1H104J	MYLAR		
C231		CE04KW1V470M	ELECTRO		

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KR-V990D/V9080

PARTS LIST

*** New Parts**
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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
S3			S31-2322-05	SLIDE SWITCH (AC VOLTAGE SEL)	YM	
D1			HSS104	DIODE		
D1			1SS133	DIODE		
D2,3			HSS104A	DIODE		
D2,3			1SS131	DIODE		
D4-7			S5688B	DIODE		
D4-7			1SR139-100	DIODE		
D8			HZS2.7N(B2)	ZENER DIODE		
D8			RD2.7ES(B2)	ZENER DIODE		
D9			HZS6.2N(B2)	ZENER DIODE		
D9			RD6.2ES(B2)	ZENER DIODE		
D10			HZS8.2N(B2)	ZENER DIODE		
D10			RD8.2ES(B2)	ZENER DIODE		
D11 -14			S5688B	DIODE		
D11 -14			1SR139-100	DIODE		
D15			D5SBA20F03	DIODE		
D16			D5FB20-4002-L1	DIODE		
D17			HZS16N(B2)	ZENER DIODE		
D17			RD16ES(B2)	ZENER DIODE		
D18			HZS18N(B2)	ZENER DIODE		
D18			RD18ES(B2)	ZENER DIODE		
D19 ,20			S5688B	DIODE		
D19 ,20			1SR139-100	DIODE		
D21 ,22			HSS104A	DIODE		
D21 ,22			1SS131	DIODE		
D23			HZS5.1N(B2)	ZENER DIODE		
D23			RD5.1ES(B2)	ZENER DIODE		
D24 -27			HSS104	DIODE		
D24 -27			1SS133	DIODE		
D31 ,32			HSS104A	DIODE		
D31 ,32			1SS131	DIODE		
D41 ,42			HSS104	DIODE		
D41 ,42			1SS133	DIODE		
D43			D5SBA20F03	DIODE		
D61			HSS104A	DIODE		
D61			1SS131	DIODE		
D91 ,92			HSS104A	DIODE		
D91 ,92			1SS131	DIODE		
D131,132			HSS104A	DIODE		
D131,132			1SS131	DIODE		
D161			HSS104A	DIODE		
D161			1SS131	DIODE		
D191,192			HSS104A	DIODE		
D191,192			1SS131	DIODE		
D211			HSS104	DIODE		
D211			1SS133	DIODE		
D222			HZS16N(B2)	ZENER DIODE		
D222			RD16ES(B2)	ZENER DIODE		
D223			HZS8.2N(B2)	ZENER DIODE		
D223			RD8.2ES(B2)	ZENER DIODE		
D231			HSS104A	DIODE		
D231			1SS131	DIODE		
D232			HZS4.7N(B2)	ZENER DIODE		
D232			RD4.7ES(B2)	ZENER DIODE		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
T1			L07-0866-05	POWER TRANSFORMER	X	
T1			L07-0867-05	POWER TRANSFORMER	E	
T1		*	L07-2114-05	POWER TRANSFORMER	C	
CP1-3			R90-0898-05	MULTI-COMP	J	5W
CP4,5			R90-0186-05	MULTI-COMP	K	5W
R1			R92-1769-05	CARBON	J	1/2W
R6			RD14NB2E4R7J	RD	J	1/4W
R8			RD14NB2E221J	RD	J	1/4W
R9			RD14NB2E4R7J	RD	J	1/4W
R13			RD14NB2E151J	RD	J	1/4W
R14-16			RD14NB2E470J	RD	J	1/4W
R47-50			RD14NB2E221J	RD	J	1/4W
R57,58			RD14NB2E101J	RD	J	1/4W
R77			RD14NB2E221J	RD	J	1/4W
R79			RD14NB2E221J	RD	J	1/4W
R87			RD14NB2E101J	RD	J	1/4W
R107-110			RD14NB2E221J	RD	J	1/4W
R113,114			RD14NB2E100J	RD	J	1/4W
R113,114			RD14NB2E330J	RD	J	1/4W
R117			RD14NB2E100J	RD	J	1/4W
R117			RD14NB2E330J	RD	J	1/4W
R119,120			RD14NB2E101J	RD	J	1/4W
R135-136			RD14NB2E220J	RD	J	1/4W
R139,140			RD14NB2E330J	RD	J	1/4W
R145,146			RD14NB2E332J	RD	J	1/4W
R149,150			RS14KB3D4R7J	FL-PROOF RS	J	2W
R155-156			RD14NB2E101J	RD	J	1/4W
R165			RD14NB2E220J	RD	J	1/4W
R167			RD14NB2E220J	RD	J	1/4W
R175			RS14KB3D4R7J	FL-PROOF RS	J	2W
R179			RD14NB2E100J	RD	J	1/4W
R187			RD14NB2E332J	RD	J	1/4W
R197-200			RD14NB2E220J	RD	J	1/4W
R201,202			RD14NB2E332J	RD	J	1/4W
R207,208			RS14KB3D4R7J	FL-PROOF RS	J	2W
R211,212			RD14NB2E100J	RD	J	1/4W
R223			RD14NB2E101J	RD	J	1/4W
R226			RS14KB3D102J	FL-PROOF RS	J	2W
R242			RS14KB3A332J	FL-PROOF RS	J	1W
R245			RD14NB2E561J	RD	J	1/4W
VR1,2			R12-1616-05	TRIMMING POT (1K)		
VR3			R12-1617-05	TRIMMING POT (22K)		
VR4,5			R12-1616-05	TRIMMING POT (1K)		
690	1A,1B		S79-0013-05	THERMAL SWITCH	E	
1C		*	S79-0025-05	THERMAL SWITCH	KP	
690	1C	*	S79-0026-05	THERMAL SWITCH	YXMC	
K1			S76-0002-05	MAGNETIC RELAY		
K2,3			S51-2088-05	MAGNETIC RELAY		
K4		*	S76-0038-05	MAGNETIC RELAY		
K4		*	S76-0045-05	MAGNETIC RELAY		
K5		*	S76-0005-05	MAGNETIC RELAY		
K5		*	S76-0045-05	MAGNETIC RELAY		
S1		*	S31-2136-05	SLIDE SWITCH (POWER TYPE)		
S2			S62-0001-05	SLIDE SWITCH (AC VOLTAGE SEL)	YM	

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Ref. No	Add. res.	New Parts	Parts No.	Description	Desti- nation	Re- marks
C5.6			CC73FSL1H101J	CHIP C		
C9.10			CC73FSL1H101J	CHIP C		
C13.14			CC73FSL1H101J	CHIP C		
C17.18			CC73FSL1H101J	CHIP C		
C21.22			CC73FSL1H390J	CHIP C		
C23.24			CE04KW1C100M	ELECTRO		
C25.26			CC73FSL1H221J	CHIP C		
C27.28			CE04KW1A101M	ELECTRO		
C29.30			CK73FB1H102K	CHIP C		
C31.32			CQ93FMG1H123J	MYLAR		
C33.34			CQ93FMG1H332J	MYLAR		
C35.36			CE04KW1V4R7M	ELECTRO		
C37			CK73EB1H102K	CHIP C		
C41.42			CE04KW1H2R2M	ELECTRO		
C43.44			CC73FSL1H101J	CHIP C		
C45.46			CC73FSL1H221J	CHIP C		
C47.48			CK73FB1H102K	CHIP C		
C49			CE04KW1C100M	ELECTRO		
C50			CK73FF1E104Z	CHIP C		
C51.52			CE04KW1H2R2M	ELECTRO		
C53.56			CK73FF1E104Z	CHIP C		
C57			CC73FSL1H101J	CHIP C		
C58			CK73FF1E104Z	CHIP C		
C59			CE04KW1C100M	ELECTRO		
C60			CE04KW1A101M	ELECTRO		
C61.62			CK73FF1E104Z	CHIP C		
C63			CE04KW1C100M	ELECTRO		
C64			CE04KW1A101M	ELECTRO		
C65.66			CK73FF1E104Z	CHIP C		
C67			CK73FB1H471K	CHIP C		
C68.71			CC73FCH1H470J	CHIP C		
C74.78			CK73FF1E104Z	CHIP C		
C81			CE04KW1A101M	ELECTRO		
C82.85			CK73FF1E104Z	CHIP C		
C86.87			CC73FCH1H470J	CHIP C		
C88			CC73FCH1H220J	CHIP C		
C89			CC73FCH1H470J	CHIP C		
C91.92			CE04KW1A470M	ELECTRO		
C93			CE04KW1C100M	ELECTRO		
C94.96			CK73FF1E104Z	CHIP C		
C97			CE04KW1A101M	ELECTRO		
C101.102			CE04KW1A470M	ELECTRO		
C103			CE04KW1C100M	ELECTRO		
C104.106			CK73FF1E104Z	CHIP C		
C107.108			CE04KW1H101M	ELECTRO		
C109.110			CE04KW1V4R7M	ELECTRO		
C111.112			CE04KW1A470M	ELECTRO		
C113			CE04KW1C100M	ELECTRO		
C114.116			CK73FF1E104Z	CHIP C		
C117.118			CC73FSL1H221J	CHIP C		
C119.120			CC73FCH1H220J	CHIP C		
C121.122			CC73FSL1H101J	CHIP C		
C123.124			CC73FSL1H221J	CHIP C		
C125.126			CC73FSL1H331J	CHIP C		
C131.132			CQ93FMG1H622J	MYLAR		

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Ref. No	Add. res.	New Parts	Parts No.	Description	Desti- nation	Re- marks
D233-239			HSS104	DIODE		
D233-239			1SS133	DIODE		
D240			HZS3.9N(B2)	ZENER DIODE		
D240			RD3.9ES(B2)	ZENER DIODE		
D241			HZS13N(B2)	ZENER DIODE		
D241			RD13ES(B2)	ZENER DIODE		
D242			HZS3.9N(B2)	ZENER DIODE		
D242			RD3.9ES(B2)	ZENER DIODE		
Q1			2SC2003(L,K)	TRANSISTOR		
Q2			2SC3940A(R,S)	TRANSISTOR		
Q3			2SA1534A(R,S)	TRANSISTOR		
Q4			2SA992(F,E)	TRANSISTOR		
Q31.32			2SC2878(B)	TRANSISTOR		
Q33.36			2SA992(F,E)	TRANSISTOR		
Q37.38			2SC2631(R,S)	TRANSISTOR		
Q39.40			2SA1123(R,S)	TRANSISTOR		
Q41.43			2SC2631(R,S)	TRANSISTOR		
Q44.45			2SA1123(R,S)	TRANSISTOR		
Q46			2SC2631(R,S)	TRANSISTOR		
Q61			2SC2878(B)	TRANSISTOR		
Q63			2SA992(F,E)	TRANSISTOR		
Q65			2SA992(F,E)	TRANSISTOR		
Q67			2SC2631(R,S)	TRANSISTOR		
Q69			2SA1123(R,S)	TRANSISTOR		
Q71			2SC2631(R,S)	TRANSISTOR		
Q91.92			2SC2878(B)	TRANSISTOR		
Q93.96			2SA992(F,E)	TRANSISTOR		
Q97.100			2SC1845(F,E)	TRANSISTOR		
Q101.102			2SA992(F,E)	TRANSISTOR		
Q131.132			2SD2222	TRANSISTOR		
Q133.134			2SB1470	TRANSISTOR		
Q135.136			2SC4137(V,W)	TRANSISTOR		
Q137.138			2SC1845(F,E)	TRANSISTOR		
Q161			2SD2222	TRANSISTOR		
Q163			2SB1470	TRANSISTOR		
Q165			2SC4137(V,W)	TRANSISTOR		
Q167			2SC1845(F,E)	TRANSISTOR		
Q191.192			2SD2359	TRANSISTOR		
Q193.194			2SB1559	TRANSISTOR		
Q195.196			2SC4137(V,W)	TRANSISTOR		
Q197.198			2SC1845(F,E)	TRANSISTOR		
Q211.212			2SC2458(Y,GR)	TRANSISTOR		
Q211.212			2SC3311A(Q,R)	TRANSISTOR		
Q221			2SA992(F,E)	TRANSISTOR		
Q222			2SA1048(Y,GR)	TRANSISTOR		
Q222			2SA1309A(Q,R)	TRANSISTOR		
Q223			2SB1370	TRANSISTOR		
Q223			2SB1375	TRANSISTOR		
Q231			2SA992(F,E)	TRANSISTOR		
Q232.233			2SC1845(F,E)	TRANSISTOR		
Q234.236			DTC113ZS	DIGITAL TRANSISTOR		
Q234.236			UN4219	DIGITAL TRANSISTOR		

SURROUND UNIT (X08-2710-10) KR-V990D only

C1.2
 | | CC73FSL1H101J | CHIP C | | || | | | | 100PF | J | |

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Ref. No	Add. res.	Parts No.	Description	Desti- nation	Re- marks
C354		CE04KW1A101M	ELECTRO		
C355-358		CK73FF1E104Z	100UF		
C359		CE04KW1A101M	0.10UF		10WV
C361		CK73FB1H102K	1000PF		Z
C371-372		CK73FB1H102K	1000PF		K
C373-374		CC73FCH1H100D	10PF		D
C375		CC73FCH1H220J	22PF		J
C376-377		CC73FCH1H470J	47PF		J
C378		CC73FCH1H271J	270PF		J
C379		CE04KW1A101M	100UF		10WV
C380-381		CK73FF1E104Z	0.10UF		Z
C382		CK73FB1H102K	1000PF		K
C383-384		CC73FCH1H100D	10PF		D
C389		CK73FF1E104Z	0.10UF		Z
C391-422		CK73FF1E104Z	0.10UF		Z
C429-433		CK73FF1E104Z	0.10UF		Z
C434		CK73FB1H103K	0.010UF		K
C435-438		CK73FF1E104Z	0.10UF		Z
C439		CE04KW1A101M	100UF		10WV
C440		CK73FF1E104Z	0.10UF		Z
C443		CC73FSL1H101J	100PF		J
C501-502		CC73FSL1H101J	100PF		J
C505-508		CE04KW1H2R2M	2.2UF		50WV
C511		CC73FSL1H101J	100PF		J
C515		CE04KW1H2R2M	2.2UF		50WV
C517		CE04KW1H2R2M	ELECTRO		
C521-524		CK73FF1E104Z	0.10UF		Z
C531-532		CE04KW1V220M	22UF		35WV
C533-534		CE04KW1V470M	47UF		35WV
C535-536		CE04KW1V47M	4.7UF		35WV
C537-538		CC73FSL1H101J	100PF		J
C541-544		CC73FSL1H101J	0.10UF		J
C545-546		CC73FSL1H101J	100PF		J
C547-548		CE04KW1H2R2M	2.2UF		50WV
C550		CK73FB1H102K	1000PF		K
C551-552		CK73FB1H103K	0.010UF		K
C553-558		CK73FF1E104Z	0.10UF		Z
C601-602		CE04KW1V4R7M	4.7UF		35WV
C603-604		CC73FCH1H220J	22PF		J
C605-606		CE04KW1V4R7M	4.7UF		35WV
C607-610		CK73FF1E104Z	0.10UF		Z
C611-613		CE04KW1C470M	47UF		16WV
CN1-3		E40-9832-05	SOCKET FOR PIN ASSY (16P)		
CN11		E40-9836-05	SOCKET FOR PIN ASSY (20P)		
J1-2		E63-0139-15	PHONO JACK (6P/TAPE1,2/CD/PHONO)		
J3-4		E63-0169-05	PHONO JACK (3P/PRE OUT)		
J11		E63-0161-05	PHONO JACK (2P/AC3 AUDIO INPUT)		
L1-5		L92-0044-05	FERRITE CORE		
L7-17		L92-0044-05	FERRITE CORE		
L19-21		L92-0044-05	FERRITE CORE		
L23		L92-0044-05	FERRITE CORE		
L25-27		L92-0044-05	FERRITE CORE		
L30		L79-0788-05	LC FILTER		
X11		L78-0267-05	RESONATOR (4.194MHZ)		

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C133-134		CO93FMG1H392J	MYLAR		J
C135-136		CO93FMG1H472J	MYLAR		J
C141-142		CC73FSL1H101J	100PF		J
C143-144		CC73FSL1H221J	220PF		J
C145-146		CC73FSL1H331J	330PF		J
C151-152		CO93FMG1H822J	8200PF		J
C153-154		CO93FMG1H392J	3900PF		J
C155-156		CO93FMG1H472J	4700PF		J
C161-162		CC73FSL1H101J	100PF		J
C163-164		CC73FSL1H221J	220PF		J
C165-166		CC73FSL1H331J	330PF		J
C171-172		CO93FMG1H822J	8200PF		J
C173-174		CO93FMG1H392J	3900PF		J
C175-176		CO93FMG1H472J	4700PF		J
C181-184		CO93FMG1H104J	0.10UF		J
C185-186		CC73FSL1H101J	100PF		J
C187-188		CE04KW1H2R2M	2.2UF		50WV
C191		CO93FMG1H104J	MYLAR		J
C193		CO93FMG1H104J	MYLAR		J
C195		CC73FSL1H101J	100PF		J
C197-198		CE04KW1H2R2M	2.2UF		50WV
C201		CO93FMG1H333J	0.033UF		J
C202		CO93FMG1H104J	0.10UF		J
C207-212		CE04KW1C220M	22UF		16WV
C213-215		CE04KW1H2R2M	2.2UF		50WV
C217-218		CE04KW1H2R2M	ELECTRO		
C221-224		CE04KW1V4R7M	4.7UF		35WV
C227-228		CC73FSL1H101J	100PF		J
C231-234		CE04KW1V4R7M	4.7UF		35WV
C237-238		CC73FSL1H101J	100PF		J
C241-244		CE04KW1V4R7M	4.7UF		35WV
C247-248		CC73FSL1H101J	100PF		J
C251-252		CK73FF1E104Z	0.10UF		Z
C253-254		CK73FB1H103K	0.010UF		K
C255-262		CK73FF1E104Z	0.10UF		Z
C265-266		CE04KW1C470M	47UF		16WV
C269-270		CK73FF1E104Z	0.10UF		Z
C279-280		CE04KW1C470M	47UF		16WV
C283-288		CK73FF1E104Z	0.10UF		Z
C301		CK73FB1H103K	0.010UF		K
C310-314		CK73FF1E104Z	0.10UF		Z
C321		CC73FCH1H470J	47PF		J
C322		CK73FB1H102K	1000PF		K
C323		CE04KW1C470M	47UF		16WV
C331		CK73FF1E104Z	0.10UF		Z
C332-333		CK73FF1E474Z	0.47UF		Z
C341		CE04KW1H100M	100UF		50WV
C342		CE04KW1C101M	100UF		16WV
C343-344		CK73FF1E104Z	0.10UF		Z
C345		CE04KW1C100M	10UF		16WV
C346		CE04KW1A101M	100UF		10WV
C347-348		CK73FF1E104Z	0.10UF		Z
C350		CE04KW1A101M	100UF		10WV
C351-352		CK73FF1E104Z	0.10UF		Z
C353		CE04KW1C100M	10UF		16WV

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Ref. No	Adress	New Parts	Parts No.	Description	Desti- nation	Re- marks
R190			RK73FB2A103J	CHIP R	1/10W	
R191, 192			RK73FB2A104J	CHIP R	1/10W	
R193, 194			RK73FB2A472J	CHIP R	4.7K	
R195			RK73FB2A153J	CHIP R	15K	
R196			RK73FB2A513J	CHIP R	51K	
R203, 205			RK73FB2A104J	CHIP R	100K	
R207, 208			RK73FB2A104J	CHIP R	100K	
R211, 212			RK73FB2A101J	CHIP R	100	
R213, 214			RK73FB2A103J	CHIP R	10K	
R215, 216			RK73FB2A472J	CHIP R	4.7K	
R231-234			RK73FB2A102J	CHIP R	1.0K	
R235-238			RK73FB2A104J	CHIP R	100K	
R239, 240			RK73FB2A101J	CHIP R	100	
R241-244			RK73FB2A102J	CHIP R	1.0K	
R245-248			RK73FB2A104J	CHIP R	100K	
R249, 250			RK73FB2A101J	CHIP R	100	
R251			RK73FB2A102J	CHIP R	1.0K	
R252			RK73FB2A222J	CHIP R	2.2K	
R253, 254			RK73FB2A102J	CHIP R	1.0K	
R255-258			RK73FB2A104J	CHIP R	100K	
R259, 260			RK73FB2A101J	CHIP R	100	
R275-278			RD14NB2E470J	RD	47	
R301-341			RK73FB2A104J	CHIP R	100K	
R343-365			RK73FB2A104J	CHIP R	100K	
R371			RK73FB2A102J	CHIP R	1.0K	
R372			RK73FB2A101J	CHIP R	100	
R373, 374			RK73FB2A102J	CHIP R	1.0K	
R375			RK73FB2A101J	CHIP R	100	
R376-386			RK73FB2A102J	CHIP R	1.0K	
R388			RK73FB2A102J	CHIP R	1.0K	
R389			RK73FB2A101J	CHIP R	100	
R391			RK73FB2A103J	CHIP R	10K	
R392			RK73FB2A102J	CHIP R	1.0K	
R400			RK73FB2A105J	CHIP R	1.0M	
R401			RK73FB2A750J	CHIP R	75	
R402, 403			RK73FB2A102J	CHIP R	1.0K	
R404-406			RK73FB2A202J	CHIP R	2.0K	
R407			RK73FB2A681J	CHIP R	680	
R408			RK73FB2A103J	CHIP R	10K	
R409			RK73FB2A102J	CHIP R	1.0K	
R412, 413			RK73FB2A102J	CHIP R	1.0K	
R414-416			RK73FB2A202J	CHIP R	2.0K	
R417			RK73FB2A681J	CHIP R	680	
R418			RK73FB2A103J	CHIP R	10K	
R419			RK73FB2A222J	CHIP R	2.2K	
R421			RK73FB2A750J	CHIP R	75	
R425			RK73FB2A103J	CHIP R	10K	
R428			RK73FB2A121J	CHIP R	120	
R441			RK73FB2A680J	CHIP R	68	
R442			RK73FB2A103J	CHIP R	10K	
R443			RK73FB2A224J	CHIP R	220K	
R444			RK73FB2A104J	CHIP R	100K	
R445			RK73FB2A103J	CHIP R	10K	
R446			RK73FB2A224J	CHIP R	220K	
R447, 448			RK73FB2A104J	CHIP R	100K	

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Ref. No	Adress	New Parts	Parts No.	Description	Desti- nation	Re- marks
X14			L77-1125-05	CRYSTAL RESONATOR(24.576MHZ)		
X15		*	L77-2158-05	CRYSTAL RESONATOR(33MHZ)		
R1, 2			RK73FB2A222J	CHIP R	2.2K	
R3, 4			RK73FB2A474J	CHIP R	470K	
R5, 6			RK73FB2A221J	CHIP R	220	
R7, 8			RK73FB2A224J	CHIP R	220K	
R9, 10			RK73FB2A102J	CHIP R	1.0K	
R11, 12			RK73FB2A224J	CHIP R	220K	
R13, 14			RK73FB2A221J	CHIP R	220	
R15, 16			RK73FB2A224J	CHIP R	220K	
R17, 18			RK73FB2A221J	CHIP R	220	
R19, 20			RK73FB2A224J	CHIP R	220K	
R21, 22			RK73FB2A331J	CHIP R	330	
R23, 24			RK73FB2A473J	CHIP R	47K	
R25, 26			RK73FB2A101J	CHIP R	100	
R27, 28			RK73FB2A361J	CHIP R	360	
R29, 30			RK73FB2A274J	CHIP R	270K	
R31, 32			RK73FB2A223J	CHIP R	22K	
R33, 34			RK73FB2A473J	CHIP R	47K	
R35, 36			RK73FB2A102J	CHIP R	1.0K	
R40			RK73FB2A470J	CHIP R	47	
R41, 42			RK73FB2A153J	CHIP R	15K	
R45-48			RK73FB2A393J	CHIP R	39K	
R49, 50			RK73FB2A391J	CHIP R	390	
R51, 52			RK73FB2A102J	CHIP R	1.0K	
R53-56			RK73FB2A331J	CHIP R	330	
R57, 58			RK73FB2A472J	CHIP R	4.7K	
R59			RK73FB2A104J	CHIP R	100K	
R60-62			RK73FB2A470J	CHIP R	47	
R63			RK73FB2A101J	CHIP R	100	
R64-68			RK73FB2A470J	CHIP R	47	
R77-80			RK73FB2A104J	CHIP R	100K	
R81-86			RK73FB2A103J	CHIP R	10K	
R91, 92			RK73FB2A912J	CHIP R	9.1K	
R93, 94			RK73FB2A102J	CHIP R	1.0K	
R95, 96			RK73FB2A751J	CHIP R	750	
R97, 98			RK73FB2A152J	CHIP R	1.5K	
R99-106			RK73FB2A103J	CHIP R	10K	
R111, 112			RK73FB2A912J	CHIP R	9.1K	
R113, 114			RK73FB2A102J	CHIP R	1.0K	
R115, 116			RK73FB2A751J	CHIP R	750	
R117, 118			RK73FB2A152J	CHIP R	1.5K	
R119-126			RK73FB2A103J	CHIP R	10K	
R131, 132			RK73FB2A912J	CHIP R	9.1K	
R133, 134			RK73FB2A102J	CHIP R	1.0K	
R135, 136			RK73FB2A751J	CHIP R	750	
R137, 138			RK73FB2A152J	CHIP R	1.5K	
R139-142			RK73FB2A103J	CHIP R	10K	
R143, 144			RK73FB2A223J	CHIP R	22K	
R145-148			RK73FB2A104J	CHIP R	100K	
R181			RK73FB2A103J	CHIP R	10K	
R182			RK73FB2A43J	CHIP R	24K	
R183			RK73FB2A223J	CHIP R	22K	
R185-189			RK73FB2A333J	CHIP R	33K	

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
IC4 -6		*	AK4319-VM	MOS-IC		
IC7			TC74HC04AF	IC(HEX INVERTER SMD)		
IC10			NJU7312AL	ANALOGUE IC		
IC11			NJM4580ED	ANALOGUE IC		
IC12-26			NJM4580E	ANALOGUE IC		
IC30			S-806D-Z	ANALOGUE IC		
IC31-34			TA7805S	IC(VOLTAGE REGULATOR/ +5V)		
IC31-34			UPC7805AHF	IC(VOLTAGE REGULATOR/ +5V)		
IC41		*	UPD78054GC-192	MI-COM IC		
IC42		*	PD4606A	MOS-IC		
IC43,44			TC74HC04AF	IC(HEX INVERTER SMD)		
IC45		*	TC55329AP-35	MEMORY IC		
IC46		*	LC8904Q	MOS-IC		
IC47		*	TC74HC157AF	MOS-IC		
IC48		*	ZR38500-33	MOS-IC		
IC49,50		*	TC55329AP-35	MEMORY IC		
IC51		*	TA79005S	IC(VOLTAGE REGULATOR/ -5V)		
IC51		*	UPC7905HF	IC(VOLTAGE REGULATOR/ -5V)		
IC52		*	NJM78L05A	IC(VOLTAGE REGULATOR/ +5V)		
IC52		*	TA78L005AP	IC(VOLTAGE REGULATOR/ +5V)		
IC52		*	UPC78L05J	IC(VOLTAGE REGULATOR/ +5V)		
IC53-55		*	UPC7805S	IC(VOLTAGE REGULATOR/ +5V)		
IC53-55		*	UPC7805AHF	IC(VOLTAGE REGULATOR/ +5V)		
IC61		*	NJM4565M	IC(OP AMP X2)		
IC63		*	TC74HC74AF	IC(DUAL D-TYPE FLIP FLOP)		
IC71,72			NJM4580E	ANALOGUE IC		
IC73,74			NJM4565M	IC(OP AMP X2)		
Q1-6			2SC4213(B)	TRANSISTOR		
Q11 -14			2SC1923(R,O)	TRANSISTOR		
Q15 ,16			2SA1123(R,S)	TRANSISTOR		
A1		*	W02-2560-05	OSCILLATING MODULE (46.08MHZ)		
A2		*	W02-2544-05	OSCILLATING MODULE (18.432MHZ)		

CONTROL UNIT (X11-364X-XX) KR-V9080 only

C1			C91-0757-05	CERAMIC		
C2,3			CE04KW1H010M	ELECTRO		
C4			C90-1826-05	BACKUP-C		
C5			CE04KW1A101M	ELECTRO		
C6			C91-0757-05	CERAMIC		
C7			CE04KW1E470M	ELECTRO		
C8,9			C91-0757-05	CERAMIC		
C10,11			CE04KW1E470M	ELECTRO		
C12			CK45FB1H102K	CERAMIC		
C13,14			CE04KW1C470M	ELECTRO		
C15			CE04KW1E101M	ELECTRO		
C16			C91-0759-05	CERAMIC		
C17			C91-0757-05	CERAMIC		
C21			CE04KW1E101M	ELECTRO		
			CK45FB1H102K	CERAMIC		
C101,102			C91-0745-05	CERAMIC		
C105-108			C91-0745-05	CERAMIC		
C111-114			C91-0745-05	CERAMIC		
C115,116			CE04KW1C470M	ELECTRO		
C117,118			C91-0745-05	CERAMIC		
C119,120			CE04KW1H010M	ELECTRO		

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
R451			RK73FB2A102J	CHIP R		
R452-456			RK73FB2A103J	CHIP R		
R457			RK73FB2A223J	CHIP R		
R458			RK73FB2A104J	CHIP R		
R460			RK73FB2A224J	CHIP R		
R461			RK73FB2A333J	CHIP R		
R462			RK73FB2A102J	CHIP R		
R463			RK73FB2A103J	CHIP R		
R464			RK73FB2A243J	CHIP R		
R465,466			RK73FB2A562J	CHIP R		
R467			RK73FB2A151J	CHIP R		
R468			RK73FB2A204J	CHIP R		
R469			RK73FB2A471J	CHIP R		
R470-473			RK73FB2A470J	CHIP R		
R474-476			RK73FB2A102J	CHIP R		
R477,478			RK73FB2A334J	CHIP R		
R479			RK73FB2A103J	CHIP R		
R480			RK73FB2A562J	CHIP R		
R481			RK73FB2A561J	CHIP R		
R482-484			RK73FB2A102J	CHIP R		
R485,486			RK73FB2A103J	CHIP R		
R487-490			RK73FB2A470J	CHIP R		
R501,502			RK73FB2A104J	CHIP R		
R503,504			RK73FB2A472J	CHIP R		
R505,506			RK73FB2A103J	CHIP R		
R507,508			RK73FB2A104J	CHIP R		
R511			RK73FB2A104J	CHIP R		
R513			RK73FB2A472J	CHIP R		
R515			RK73FB2A103J	CHIP R		
R517			RK73FB2A104J	CHIP R		
R551,552			RK73FB2A224J	CHIP R		
R553,554			RK73FB2A393J	CHIP R		
R555,556			RK73FB2A303J	CHIP R		
R557,558			RK73FB2A243J	CHIP R		
R561-564			RK73FB2A103J	CHIP R		
R565,566			RK73FB2A104J	CHIP R		
R571,572			RK73FB2A224J	CHIP R		
R573,574			RK73FB2A223J	CHIP R		
R575,576			RK73FB2A103J	CHIP R		
R577,578			RK73FB2A104J	CHIP R		
R581-583			RK73FB2A102J	CHIP R		
R591-593			RK73FB2A102J	CHIP R		
R601-604			RK73FB2A104J	CHIP R		
R605,606			RK73FB2A102J	CHIP R		
R607,608			RK73FB2A473J	CHIP R		
R609,610			RK73FB2A104J	CHIP R		
R611,612			RK73FB2A393J	CHIP R		
R613,614			RD14NB2E470J	RD		
R615,616			RK73FB2A103J	CHIP R		
D1-8			DA204U	DIODE		
D10			DA204U	DIODE		
IC1		*	NJU7311AL	ANALOGUE IC		
IC2			XRU4053BC	MOS-IC		
IC3			AK5340-VS	MOS-IC		

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C335,336			CE04KW1V4R7M	ELECTRO	
C337			CE04KW1V4R7M	MYLAR	35WV
C338			CE04KW1V4R7M	MYLAR	0.015UF
C339			CE04KW1V4R7M	MYLAR	0.022UF
C340			CE04KW1V4R7M	CERAMIC	820PF
			CE04KW1V4R7M	CERAMIC	1000PF
C341			CE04KW1V4R7M	MYLAR	0.022UF
C342			CE04KW1V4R7M	MYLAR	0.024UF
C343			CE04KW1V4R7M	ELECTRO	4.7UF
C344			CE04KW1V4R7M	CERAMIC	180PF
C345,346			CE04KW1V4R7M	ELECTRO	4.7UF
C347			CE04KW1V4R7M	CERAMIC	0.010UF
C348			CE04KW1V4R7M	ELECTRO	4.7UF
C349,350			CE04KW1V4R7M	CERAMIC	390PF
C351			CE04KW1V4R7M	CERAMIC	39PF
C352			CE04KW1V4R7M	MF-C	0.18UF
C353			CE04KW1V4R7M	CERAMIC	100PF
C355,356			CE04KW1V4R7M	CERAMIC	120PF
C357,358			CE04KW1V4R7M	MYLAR	0.047UF
C359,361			CE04KW1V4R7M	CERAMIC	100PF
C362			CE04KW1V4R7M	ELECTRO	330UF
C363			CE04KW1V4R7M	MYLAR	0.10UF
C367,368			CE04KW1V4R7M	MYLAR	0.10UF
C369			CE04KW1V4R7M	ELECTRO	330UF
C370,371			CE04KW1V4R7M	CERAMIC	3300PF
C372			CE04KW1V4R7M	ELECTRO	10UF
C373			CE04KW1V4R7M	MYLAR	0.10UF
C375,376			CE04KW1V4R7M	CERAMIC	1000PF
C377,378			CE04KW1V4R7M	CERAMIC	0.010UF
C386			CE04KW1V4R7M	ELECTRO	47UF
C387,389			CE04KW1V4R7M	CERAMIC	100PF
C391			CE04KW1V4R7M	ELECTRO	4.7UF
C393			CE04KW1V4R7M	ELECTRO	22UF
C394			CE04KW1V4R7M	MYLAR	1.0UF
C395			CE04KW1V4R7M	CERAMIC	0.10UF
C398,399			CE04KW1V4R7M	ELECTRO	0.010UF
C401,402			CE04KW1V4R7M	ELECTRO	4.7UF
C405,406			CE04KW1V4R7M	CERAMIC	100PF
C409,410			CE04KW1V4R7M	CERAMIC	100PF
C413,414			CE04KW1V4R7M	CERAMIC	100PF
C417,418			CE04KW1V4R7M	CERAMIC	100PF
C421,422			CE04KW1V4R7M	CERAMIC	39PF
C423,424			CE04KW1V4R7M	ELECTRO	10UF
C425,426			CE04KW1V4R7M	CERAMIC	220PF
C427,428			CE04KW1V4R7M	ELECTRO	100UF
C429,430			CE04KW1V4R7M	CERAMIC	1000PF
C431,432			CE04KW1V4R7M	MYLAR	0.012UF
C433,434			CE04KW1V4R7M	MYLAR	0.012UF
C435,436			CE04KW1V4R7M	MYLAR	3300PF
C437,438			CE04KW1V4R7M	ELECTRO	4.7UF
C439			CE04KW1V4R7M	CERAMIC	0.010UF
C443			CE04KW1V4R7M	CERAMIC	1000PF
C445,446			CE04KW1V4R7M	CERAMIC	0.010UF
CN101			E40-9830-05	SOCKET FOR PIN ASSY (14P)	

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Ref. No	Add-ress	New-Parts	Parts No.	Description	Re-marks
C123,124			CE04KW1C470M	CERAMIC	22PF
C125,126			CE04KW1C470M	ELECTRO	47UF
C127,128			CE04KW1C470M	ELECTRO	1.0UF
C129,130			CE04KW1C470M	ELECTRO	0.47UF
C131-134			CE04KW1C470M	ELECTRO	4.7UF
C135,136			CE04KW1C470M	CERAMIC	100PF
C137,138			CE04KW1C470M	CERAMIC	22PF
C139,140			CE04KW1C470M	ELECTRO	2.2UF
C141,142			CE04KW1C470M	ELECTRO	0.47UF
C143-146			CE04KW1C470M	ELECTRO	4.7UF
C147,148			CE04KW1C470M	CERAMIC	100PF
C149,150			CE04KW1C470M	CERAMIC	22PF
C151,152			CE04KW1C470M	ELECTRO	1.0UF
C153,154			CE04KW1C470M	ELECTRO	0.47UF
C155-158			CE04KW1C470M	ELECTRO	4.7UF
C159,160			CE04KW1C470M	CERAMIC	100PF
C161,162			CE04KW1C470M	CERAMIC	22PF
C163,164			CE04KW1C470M	CERAMIC	0.010UF
C165-170			CE04KW1C470M	CERAMIC	100PF
C174,175			CE04KW1C470M	ELECTRO	47UF
C176,177			CE04KW1C470M	CERAMIC	0.010UF
C178			CE04KW1C470M	CERAMIC	470PF
C179,180			CE04KW1C470M	CHIP C	470PF
C183			CE04KW1C470M	CHIP C	470PF
C184,185			CE04KW1C470M	CERAMIC	100PF
C186			CE04KW1C470M	ELECTRO	47UF
C189,190			CE04KW1C470M	CERAMIC	220PF
C191			CE04KW1C470M	CERAMIC	0.010UF
C193-198			CE04KW1C470M	ELECTRO	4.7UF
C199			CE04KW1C470M	NP-ELEC	22UF
C200			CE04KW1C470M	ELECTRO	10UF
C202			CE04KW1C470M	NP-ELEC	22UF
C203,208			CE04KW1C470M	ELECTRO	22UF
C209,210			CE04KW1C470M	MYLAR	0.10UF
C301,302			CE04KW1C470M	ELECTRO	4.7UF
C303,304			CE04KW1C470M	CERAMIC	100PF
C305,306			CE04KW1C470M	ELECTRO	2.2UF
C307,310			CE04KW1C470M	ELECTRO	4.7UF
C311,312			CE04KW1C470M	CERAMIC	330PF
C313,314			CE04KW1C470M	ELECTRO	2.2UF
C315			CE04KW1C470M	ELECTRO	4.7UF
C316			CE04KW1C470M	CERAMIC	330PF
C317			CE04KW1C470M	ELECTRO	2.2UF
C318			CE04KW1C470M	ELECTRO	47UF
C319			CE04KW1C470M	MYLAR	0.10UF
C321			CE04KW1C470M	CERAMIC	100PF
C322			CE04KW1C470M	MYLAR	0.10UF
C323,324			CE04KW1C470M	CERAMIC	100PF
C325-328			CE04KW1C470M	ELECTRO	4.7UF
C329			CE04KW1C470M	MYLAR	0.022UF
C330			CE04KW1C470M	MYLAR	0.015UF
C331			CE04KW1C470M	MYLAR	0.024UF
C332			CE04KW1C470M	MYLAR	0.022UF
C333			CE04KW1C470M	MYLAR	0.022UF
C334			CE04KW1C470M	CERAMIC	820PF

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
D211			RD15ES(B)	ZENER DIODE		
D212-217			HSS104	DIODE		
D212-217			1SS133	DIODE		
D301-309			HSS104	DIODE		
D301-309			1SS133	DIODE		
D313-316			HSS104	DIODE		
D313-316			1SS133	DIODE		
D318-321			HSS104	DIODE		
D318-321			1SS133	DIODE		
D327			HSS104	DIODE		
D327			1SS133	DIODE		
IC1			NUJ7313AL	ANALOGUE IC		
IC2			LC7536R	ANALOGUE IC		
IC3			LC7536	ANALOGUE IC		
IC4			LC7536R	ANALOGUE IC		
IC5 .6			NJM4565L-D	ANALOGUE IC		
IC7 .8			NJM4580L	IC(OP AMP X2)		
IC9 .10			NJM4565L-D	ANALOGUE IC		
IC11			NJM4580D-D	IC(OP AMP X2)		
IC12			NJM4565L-D	ANALOGUE IC		
IC201			UPD78058GC-170	MI-COM IC		
IC202			S-806D-Z	ANALOGUE IC		
IC301 .302			NJM4565L	ANALOGUE IC		
IC303 .304			NJM4580L	IC(OP AMP X2)		
IC305 .306			NJM072BL	IC(OP AMP)		
IC305 .306			NJM2082L	ANALOGUE IC		
IC307 .313			NJM4565L	ANALOGUE IC		
IC314			TC9215P	IC(ANALOG SWITCH X 6)		
IC315			YS215-F	IC(DOLBY PROLOGIC)		
IC316			HM65256BLFP-10	IC(8bit MICROPROCESSOR)		
IC317			NUJ7311AL	ANALOGUE IC		
IC318			NUJ7312AL	ANALOGUE IC		
IC319			NJM4580D-D	IC(OP AMP X2)		
IC320			NJM78L05A	IC(VOLTAGE REGULATOR +5V)		
Q101			2SA1048(Y GR)	TRANSISTOR		
Q101			2SA1309A(Q.R)	TRANSISTOR		
Q102			2SC2458(Y GR)	TRANSISTOR		
Q102			2SC3311A(Q.R)	TRANSISTOR		
Q103 .104			2SA1048(Y GR)	TRANSISTOR		
Q103 .104			2SA1309A(Q.R)	TRANSISTOR		
Q105-110			2SC2878(B)	TRANSISTOR		
Q201			2SC2458(Y GR)	TRANSISTOR		
Q201			2SC3311A(Q.R)	TRANSISTOR		
Q202 .203			2SD2012	TRANSISTOR		
Q202 .203			2SD2061	TRANSISTOR		
Q204			2SC2458(Y GR)	TRANSISTOR		
Q204			2SC3311A(Q.R)	TRANSISTOR		
Q205			2SA1048(Y GR)	TRANSISTOR		
Q205			2SA1309A(Q.R)	TRANSISTOR		
Q206			2SC2458(Y GR)	TRANSISTOR		
Q206			2SC3311A(Q.R)	TRANSISTOR		
Q207			2SA1048(Y GR)	TRANSISTOR		
Q207			2SA1309A(Q.R)	TRANSISTOR		
Q208			2SD2012	TRANSISTOR		
Q208			2SD2061	TRANSISTOR		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
CN102			E40-9833-05	SOCKET FOR PIN ASSY (17P)		
CN201		*	E40-4804-05	SOCKET FOR PIN ASSY (30P)		
CN204 .205		*	E40-9841-05	PIN ASSY (8P)		
CN206		*	E40-9850-05	PIN ASSY (17P)		
CN207		*	E40-9847-05	PIN ASSY (14P)		
CN208		*	E40-9845-05	PIN ASSY (12P)		
CN209		*	E40-9849-05	PIN ASSY (16P)		
CN210		*	E40-9843-05	PIN ASSY (10P)		
CN301		*	E40-9826-05	SOCKET FOR PIN ASSY (10P)		
CN302		*	E40-9832-05	SOCKET FOR PIN ASSY (16P)		
CN303		*	E40-9828-05	SOCKET FOR PIN ASSY (12P)		
J1 .2			E63-0139-15	PHONO JACK(6P/VIDEO1.2(TV/LD))		
J3			E11-0188-05	MINIATURE PHONE JACK(2P/SYSTEM)		
J4 .5			E63-0139-15	PHONO JACK(6P/TAPE1.2(CD/PHONO)		
J6		*	E63-0184-05	PHONO JACK(1P/SUB WOOFER)		
L1 .2			L79-0799-05	LC FILTER		
X1			L78-0267-05	RESONATOR		
X2			L78-0291-05	RESONATOR (4.194MHZ)		
CP1			R90-0850-05	MULTI-COMP		
CP2			R90-0492-05	MULTI-COMP		
CP4			R90-0482-05	MULTI-COMP		
CP5			R90-0493-05	MULTI-COMP		
CP6 .7			R90-0500-05	MULTI-COMP		
CP8			R90-0855-05	MULTI-COMP		
R26			RD14NB2E101J	RD		
R27			RD14NB2E222J	RD		
R32			RD14NB2E331J	RD		
R36 .37			RS14KB3D681J	FL-PROOF RS		
R38			RS14KB3D471J	FL-PROOF RS		
R40			RS14KB3D471J	FL-PROOF RS		
R41			RS14KB3D391J	FL-PROOF RS		
R42			RS14KB3D331J	FL-PROOF RS		
R45			RS14KB3D331J	FL-PROOF RS		
R172 .173			RD14NB2E100J	RD		
R199 .200			RD14NB2E470J	RD		
R382			RS14KB3D820J	FL-PROOF RS		
R393 .394			RD14NB2E100J	RD		
D105 .106			HSS104	DIODE		
D105 .106			1SS133	DIODE		
D107			HZS4.7N(B)	ZENER DIODE		
D107			RD4.7ES(B)	ZENER DIODE		
D108			HZS5.1N(B2)	ZENER DIODE		
D108			RD5.1ES(B2)	ZENER DIODE		
D201 .202			HSS104	DIODE		
D201 .202			1SS133	DIODE		
D204-206			HSS104	DIODE		
D204-206			1SS133	DIODE		
D207 .208			S5688B	DIODE		
D207 .208			1SR139-100	DIODE		
D209			HZS16N(B2)	ZENER DIODE		
D209			RD16ES(B2)	ZENER DIODE		
D210			HZS13N(B2)	ZENER DIODE		
D210			RD13ES(B2)	ZENER DIODE		
D211			HZS15N(B)	ZENER DIODE		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C188		*	CQ93FMG1H101K	MYLAR		
C189, 190			CC45FSL1H221J	CERAMIC	K	
C191			CK45FF1H103Z	CERAMIC	220PF	
C195, 196			CE04KW1C470M	ELECTRO	0.010UF	
C197, 198			CQ93FMG1H103J	MYLAR	47UF	
					0.010UF	
C199			CE04HW1A220M	NP-ELEC	22UF	
C201			CE04KW1H100M	ELECTRO	10UF	
C203, 208			CE04HW1H010M	NP-ELEC	0.1UF	
C209, 210			CE04KW1C470M	ELECTRO	47UF	
			CF92FV1H104J	MF-C	0.10UF	
C211-216			C91-0745-05	CERAMIC	100PF	
C217			CE04HW1E4R7M	NP-ELEC	4.7UF	
C301			CE04KW1H010M	ELECTRO	1.0UF	
C302			CE04KW0J221M	ELECTRO	220UF	
C303			C90-1826-05	ELECTRO	6.3WV	
				BACKUP-C	0.047F	
C304			CQ93FMG1H103J	MYLAR	0.010UF	
C306			CE04KW1H010M	ELECTRO	1.0UF	
C307			CK45FF1H103Z	CERAMIC	0.010UF	
C310			CK45FF1H103Z	CERAMIC	0.010UF	
C311			C91-0769-05	CERAMIC	0.010UF	
CN1-3		*	E40-9849-05	PIN ASSY	(16P)	
CN4		*	E40-9853-05	PIN ASSY	(20P)	
CN5		*	E40-4296-05	FLAT CABLE CONNECTOR (6P)		
CN6, 7		*	E40-9841-05	PIN ASSY	(8P)	
CN8		*	E40-4804-05	SOCKET FOR PIN ASSY (30P)		
CN9		*	E40-9841-05	PIN ASSY	(8P)	
CN10		*	E40-9848-05	PIN ASSY	(15P)	
CN11		*	E40-4634-05	PIN ASSY	(15P)	
CN101		*	E40-4636-05	SOCKET FOR PIN ASSY (15P)		
CN102		*	E40-9831-05	SOCKET FOR PIN ASSY (15P)		
CN103		*	E40-9824-05	SOCKET FOR PIN ASSY (8P)		
J1, 2			E63-0139-15	PHONO JACK (6P/VIDEO/T/VLD)		
J3			E11-0188-05	MINIATURE PHONE JACK (2P/SYSTEM)		
X1			L78-0267-05	RESONATOR	(4.194MHZ)	
CP1			R90-0500-05	MULTI-COMP	100KX6	
CP2			R90-0803-05	MULTI-COMP	100KX7	
CP3			R90-0875-05	MULTI-COMP	100KX15	
CP4, 5			R90-0855-05	MULTI-COMP	100KX5	
CP6			R90-0803-05	MULTI-COMP	100KX7	
R49			RD14NB2E331J	RD	330	
R60-63			RS14KB3D331J	FL-PROOF RS	330	
R64-66			RS14KB3D561J	FL-PROOF RS	560	
R67, 68			RS14KB3D271J	FL-PROOF RS	270	
R69			RD14NB2E1R0J	RD	1.0	
R70			RS14KB3D561J	FL-PROOF RS	560	
R71			RS14KB3A100J	FL-PROOF RS	10	
R72			RD14NB2E1R0J	RD	1.0	
R193, 194			RD14NB2E470J	RD	47	
K1		*	S76-0050-05	MAGNETIC RELAY		
D1			HZS6.8N(B2)	ZENER DIODE		
D2			RD6.8ES(B2)	ZENER DIODE		
D2			HZS10N(B)	ZENER DIODE		
D2			RD10ES(B)	ZENER DIODE		

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Q209			2SC2458(Y,GR)	TRANSISTOR		
Q211			2SC3311A(Q,H)	TRANSISTOR		
Q211			2SD2012	TRANSISTOR		
Q301-305			2SD2061	TRANSISTOR		
			2SC2878(B)	TRANSISTOR		
SUB-CIRCUIT UNIT (X13-735X-XX) KR-V990D only						
C15, 16			CE04KW1V4R7M	ELECTRO	4.7UF	
C17, 18			CE04FSL1H101J	ELECTRO	100PF	
C19, 20			C91-0729-05	CERAMIC	22PF	
C21, 22			CE04KW1C220M	ELECTRO	22UF	
C32			CF92FV1H104J	MF-C	0.10UF	
C33			CQ93FMG1H471J	MYLAR	470PF	
C34			CE04KW1V101M	ELECTRO	100UF	
C37, 38			CE04KW1V470M	ELECTRO	47UF	
C39, 40			CE04KW1C471M	ELECTRO	470UF	
C43			CE04KW1C470M	ELECTRO	47UF	
C44			CE04KW1C101M	ELECTRO	100UF	
C45			CK45FF1H103Z	CERAMIC	0.010UF	
C46			CE04KW1C220M	ELECTRO	22UF	
C47			CK45FF1H103Z	CERAMIC	0.010UF	
C48			CE04KW1C470M	ELECTRO	47UF	
C49, 50			CK45FB1H102K	CERAMIC	1000PF	
C51-54			CQ93FMG1H103J	MYLAR	0.010UF	
C101, 102			C91-0745-05	CERAMIC	100PF	
C105-108			C91-0745-05	CERAMIC	100PF	
C111-114			C91-0745-05	CERAMIC	100PF	
C117, 118			C91-0745-05	CERAMIC	100PF	
C119, 120			CE04KW1H010M	ELECTRO	1.0UF	
C121, 122			C91-0729-05	CERAMIC	220PF	
C123, 124			C91-0729-05	CERAMIC	22PF	
C125, 126			CE04KW1C220M	ELECTRO	22UF	
C127, 128			CE04KW1V4R7M	ELECTRO	4.7UF	
C129, 130			CE04KW1HR47M	ELECTRO	0.47UF	
C131-134			CE04KW1V4R7M	ELECTRO	4.7UF	
C135, 136			C91-0745-05	CERAMIC	100PF	
C137, 138			C91-0729-05	CERAMIC	22PF	
C139, 140			CE04KW1V4R7M	ELECTRO	4.7UF	
C141, 142			CE04KW1HR47M	ELECTRO	0.47UF	
C143, 146			CE04KW1V4R7M	ELECTRO	4.7UF	
C147, 148			C91-0745-05	CERAMIC	100PF	
C149, 150			C91-0729-05	CERAMIC	22PF	
C151, 152			CE04KW1V4R7M	ELECTRO	4.7UF	
C153, 154			CE04KW1HR47M	ELECTRO	0.47UF	
C155-158			CE04KW1V4R7M	ELECTRO	4.7UF	
C159, 160			C91-0745-05	CERAMIC	100PF	
C161, 162			C91-0729-05	CERAMIC	22PF	
C163, 164			CQ93FMG1H103J	MYLAR	0.010UF	
C165-170			C91-0729-05	CERAMIC	22PF	
C171-176			CE04KW1H100M	ELECTRO	10UF	
C177			CK45FF1H103Z	CERAMIC	0.010UF	
C178			CK45FB1H471K	MYLAR	470PF	
C179, 180			C91-0749-05	CERAMIC	220PF	
C181			C91-0769-05	CERAMIC	0.010UF	
C183			C91-0749-05	CERAMIC	220PF	
C185, 186			C909FMG1H104J	MYLAR	100PF	

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Q103			2SA1309A(Q,R)	TRANSISTOR		
Q105-110			2SC2878(B)	TRANSISTOR		
Q111			2SA1048(Y,GR)	TRANSISTOR		
Q111			2SA1309A(Q,R)	TRANSISTOR		
DISPLAY UNIT (X14-414X-XX)						
D3-4			B30-1291-05	LED		
D5			B30-1290-05	LED		
C1-2			CE04KW1V4R7M	ELECTRO		
C3			C91-1488-05	MF		
C4			C91-0769-05	CERAMIC		
C5-7			CC45FSL1H101J	CERAMIC		
C8-11			C91-0745-05	CERAMIC		
C12			CE04KW1C330M	ELECTRO		
C13-16			CK45FF1H103Z	CERAMIC		
C17-18			CE04KW1V4R7M	ELECTRO		
C19-20			CC45FSL1H221J	CERAMIC		
C21-22			CC45FSL1H220J	CERAMIC		
C23-24			CK45FB1H561K	CERAMIC		
C25-26			CE04KW1C100M	ELECTRO		
C27-28			CE04KW1V4R7M	ELECTRO		
C29-30			CO93FMG1H393J	MYLAR		
C31-32			CO93FMG1H563J	MYLAR		
C33-34			CO93FMG1H103J	MYLAR		
C35-36			CK45FB1H471K	CERAMIC		
C37			C91-0769-05	CERAMIC		
C38-42			C91-0745-05	CERAMIC		
C43-44			C91-0753-05	CHIP C		
C45-46			C90-3224-05	ELECTRO		
C47-48			CK45FF1H103Z	CERAMIC		
C49-50			C90-3224-05	ELECTRO		
C51-52			C91-0729-05	CERAMIC		
C53			C91-0757-05	CERAMIC		
C54			C91-0769-05	CERAMIC		
C55-56			CK45FF1H103Z	CERAMIC		
C57			C90-3225-05	ELECTRO		
C58			CC45FSL1H331J	CERAMIC		
C59			CE04KW1H2R2M	ELECTRO		
C60			C90-3225-05	ELECTRO		
C61			CK45FF1H103Z	CERAMIC		
C62			CK45FB1H102K	CERAMIC		
C63			CC45FCH1H220J	CERAMIC		
C64			CC45FCH1H470J	CERAMIC		
C65			CK45FF1H103Z	CERAMIC		
C66			CK45FB1H561K	CERAMIC		
C100-119			CC45FSL1H101J	CERAMIC		
C120-123			CE04KW1V4R7M	ELECTRO		
C124-126			CE04KW1C331M	ELECTRO		
C127			CE04KW1C100M	ELECTRO		
C128			CK45FF1H103Z	CERAMIC		
C129			CE04KW1E471M	ELECTRO		
C130-131			CE04KW1C470M	ELECTRO		
C132			CK45FF1H103Z	CERAMIC		
C133			CE04KW1C470M	ELECTRO		
C134			CK45FF1H103Z	CERAMIC		

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Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add-ress	New Parts	Parts No.	Description	Designation	Remarks
D3			HZS16N(B)	ZENER DIODE		
D4-5			RD16ES(B)	ZENER DIODE		
D6-7			S5688B	DIODE		
D8			1SR139-100	DIODE		
D9			HSS104A	DIODE		
D10			1SS131	DIODE		
D105-106			S5688B	DIODE		
D107			1SR139-100	DIODE		
D108			HZS8.2N(B2)	ZENER DIODE		
D109-112			RD8.2ES(B2)	ZENER DIODE		
D107			HSS104A	DIODE		
D10			1SS131	DIODE		
D105-106			HSS104A	DIODE		
D107			1SS131	DIODE		
D107			HZS4.7N(B)	ZENER DIODE		
D108			RD4.7ES(B)	ZENER DIODE		
D109-112			HZS5.1N(B2)	ZENER DIODE		
D107			RD5.1ES(B2)	ZENER DIODE		
D108			HSS104A	DIODE		
D109-112			1SS131	DIODE		
D302-306			HSS104A	DIODE		
D307-308			1SS131	DIODE		
D311-317			HSS104A	DIODE		
IC1			UPD78058GG-224	MI-COM IC		
IC2			S-806D-Z	ANALOGUE IC		
IC3			TC9215P	IC(ANALOG SWITCH X 6)		
IC4			NJM4580L	IC(OP AMP X2)		
IC101			NJU7313AL	ANALOGUE IC		
IC102			LC7536R	ANALOGUE IC		
IC103			LC7536	ANALOGUE IC		
IC104			LC7536R	ANALOGUE IC		
IC105-106			NJM4565L-D	ANALOGUE IC		
IC107-108			NJM4580L	IC(OP AMP X2)		
IC109-110			NJM4565L-D	ANALOGUE IC		
IC111			NJM4565D-D	IC(OP AMP X2)		
Q1-2			2SD2061	TRANSISTOR		
Q3			2SC2458(Y,GR)	TRANSISTOR		
Q4			2SC3311A(Q,R)	TRANSISTOR		
Q5			2SA1048(Y,GR)	TRANSISTOR		
Q6			2SA1309A(Q,R)	TRANSISTOR		
Q7			2SD2061	TRANSISTOR		
Q8-9			2SC2458(Y,GR)	TRANSISTOR		
Q10-11			2SC3311A(Q,R)	TRANSISTOR		
Q12-13			2SD2061	TRANSISTOR		
Q12-13			2SC2458(Y,GR)	TRANSISTOR		
Q12-13			2SC3311A(Q,R)	TRANSISTOR		
Q101			2SA1048(Y,GR)	TRANSISTOR		
Q101			2SA1309A(Q,R)	TRANSISTOR		
Q102			2SC2003(L,K)	TRANSISTOR		
Q103			2SA1048(Y,GR)	TRANSISTOR		

L : Scandinavia
Y : PX(Far East, Hawaii)
Y : AAFES(Europe)

K : USA
T : Europe
X : Australia

P : Canada
E : Europe
M : Other Areas

R : Mexico
G : Germany
C : CHINA

D : KR-V990D
9 : KR-V9080

Δ indicates safety critical components.

KR-V990D/V9080

PARTS LIST

* New Parts						* New Parts					
Parts without Parts No. are not supplied.						Parts without Parts No. are not supplied.					
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Ref. No	Add. res	Parts No.	Description	Desti- nation	Re- marks	Ref. No	Add. res	Parts No.	Description	Desti- nation	Re- marks
C135		CE04KW1C331M	ELECTRO			C135		CE04KW1C331M	ELECTRO		
C136		CK45FF1H223Z	CERAMIC			C136		CK45FF1H223Z	CERAMIC		
C137		CK45FF1H222K	CERAMIC			C137		CK45FF1H222K	CERAMIC		
C138		CE04KW1V4R7M	ELECTRO			C138		CE04KW1V4R7M	ELECTRO		
C139-141		CC45FSL1H101J	CERAMIC			C139-141		CC45FSL1H101J	CERAMIC		
C142		CE04KW1V4R7M	ELECTRO			C142		CE04KW1V4R7M	ELECTRO		
C143		CF92FV1H105J	MF-C			C143		CF92FV1H105J	MF-C		
C145		CC45FSL1H220J	CERAMIC			C145		CC45FSL1H220J	CERAMIC		
C146		CC45FSL1H270J	CERAMIC			C146		CC45FSL1H270J	CERAMIC		
C148		CC45FCH1H050C	CERAMIC			C148		CC45FCH1H050C	CERAMIC		
C149		CC45FCH1H220J	CERAMIC			C149		CC45FCH1H220J	CERAMIC		
C150		CF92FV1H105J	MF-C			C150		CF92FV1H105J	MF-C		
C151		CE04KW1H2R2M	ELECTRO			C151		CE04KW1H2R2M	ELECTRO		
C152		CK45FF1H223Z	CERAMIC			C152		CK45FF1H223Z	CERAMIC		
C153		CK45FB1H332K	CERAMIC			C153		CK45FB1H332K	CERAMIC		
C154		CC45FSL1H221J	CERAMIC			C154		CC45FSL1H221J	CERAMIC		
C155		CE04KW1H103Z	CERAMIC			C155		CE04KW1H103Z	CERAMIC		
C156		CE04KW1H4R7M	ELECTRO			C156		CE04KW1H4R7M	ELECTRO		
C157		CK45FB1H471K	CERAMIC			C157		CK45FB1H471K	CERAMIC		
C158		CK45FB1H561K	CERAMIC			C158		CK45FB1H561K	CERAMIC		
C159		CE04KW1H010M	ELECTRO			C159		CE04KW1H010M	ELECTRO		
C160,161		CE04KW1V4R7M	ELECTRO			C160,161		CE04KW1V4R7M	ELECTRO		
C162		CE04KW1C331M	ELECTRO			C162		CE04KW1C331M	ELECTRO		
C163		CK45FF1H223Z	CERAMIC			C163		CK45FF1H223Z	CERAMIC		
C164,165		CE04KW1V4R7M	ELECTRO			C164,165		CE04KW1V4R7M	ELECTRO		
C166		CE04KW1C331M	ELECTRO			C166		CE04KW1C331M	ELECTRO		
C167		CK45FF1H223Z	CERAMIC			C167		CK45FF1H223Z	CERAMIC		
C168,169		CK45FF1H103Z	CERAMIC			C168,169		CK45FF1H103Z	CERAMIC		
C170		CE04KW1V4R7M	ELECTRO			C170		CE04KW1V4R7M	ELECTRO		
C171		CE04KW1C331M	ELECTRO			C171		CE04KW1C331M	ELECTRO		
C172		CK45FF1H103Z	CERAMIC			C172		CK45FF1H103Z	CERAMIC		
C173		CE04KW1V4R7M	ELECTRO			C173		CE04KW1V4R7M	ELECTRO		
C174		CK45FF1H223Z	CERAMIC			C174		CK45FF1H223Z	CERAMIC		
C175		CK45FF1H103Z	CERAMIC			C175		CK45FF1H103Z	CERAMIC		
C176,177		CE04KW1C100M	ELECTRO			C176,177		CE04KW1C100M	ELECTRO		
C178		CE04KW1E471M	ELECTRO			C178		CE04KW1E471M	ELECTRO		
C179,180		CE04KW1V4R7M	ELECTRO			C179,180		CE04KW1V4R7M	ELECTRO		
C181,182		CE04KW1C470M	ELECTRO			C181,182		CE04KW1C470M	ELECTRO		
C183		CE04KW1E471M	ELECTRO			C183		CE04KW1E471M	ELECTRO		
C184-190		CK45FF1H103Z	CERAMIC			C184-190		CK45FF1H103Z	CERAMIC		
C191		CE04KW1H010M	ELECTRO			C191		CE04KW1H010M	ELECTRO		
C192,193		CK45FF1H103Z	CERAMIC			C192,193		CK45FF1H103Z	CERAMIC		
C194		CE04KW1C101M	ELECTRO			C194		CE04KW1C101M	ELECTRO		
C195,196		CC45FSL1H101J	CERAMIC			C195,196		CC45FSL1H101J	CERAMIC		
C197		CE04HW1E100M	NP-ELEC			C197		CE04HW1E100M	NP-ELEC		
C198,199		CK45FF1H103Z	CERAMIC			C198,199		CK45FF1H103Z	CERAMIC		
C200-202		CE04KW1H100M	ELECTRO			C200-202		CE04KW1H100M	ELECTRO		
C203		CF92FV1H105J	MF-C			C203		CF92FV1H105J	MF-C		
C204		CK45FF1H103Z	CERAMIC			C204		CK45FF1H103Z	CERAMIC		
C205		CC45FSL1H470J	CERAMIC			C205		CC45FSL1H470J	CERAMIC		
C206		C91-0769-05	CERAMIC			C206		C91-0769-05	CERAMIC		
TC1		C05-0097-05	CERAMIC TRIMMER CAPACITOR(30PF)			TC1		C05-0097-05	CERAMIC TRIMMER CAPACITOR(30PF)		
CN1		E40-4796-05	PIN ASSY			CN1		E40-4796-05	PIN ASSY		
CN2		E40-4297-05	FLAT CABLE CONNECTOR (7P)			CN2		E40-4297-05	FLAT CABLE CONNECTOR (7P)		
L: Scandinavia K: USA P: Canada R: Mexico D: KR-V990D						L: Scandinavia K: USA P: Canada R: Mexico D: KR-V990D					
Y: PxiFar East, Hawaii T: Europe E: Europe G: Germany 9: KR-V9080						Y: PxiFar East, Hawaii T: Europe E: Europe G: Germany 9: KR-V9080					
V: AAFES(Europe) X: Australia M: Other Areas C: CHINA						V: AAFES(Europe) X: Australia M: Other Areas C: CHINA					

KR-V990D/V9080

PARTS LIST

31					
* New Parts Parts without Parts No. are not supplied. Les articles non mentionnés dans le Parts No. ne sont pas fournis. Teile ohne Parts No. werden nicht geliefert.					
Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation
D6-7			1SS131	DIODE	E
D8			HSS104A	DIODE	E
D9-14			1SS131	DIODE	
D9-14			HSS104A	DIODE	
D9-14			1SS131	DIODE	
D15-20			HSS104	DIODE	
D15-20			1SS133	DIODE	
D21			HSS104A	DIODE	E
D22			HSS104A	DIODE	E
D22			1SS131	DIODE	
D100			HZS5.6N(B2)	ZENER DIODE	
D100			RD5.6ES(B2)	ZENER DIODE	
D101			HZS5.1N(B2)	ZENER DIODE	
D101			RD5.1ES(B2)	ZENER DIODE	
D102			HZS5.6N(B2)	ZENER DIODE	
D102			RD5.6ES(B2)	ZENER DIODE	
D103			HZS5.1N(B2)	ZENER DIODE	
D103			RD5.1ES(B2)	ZENER DIODE	
D104			HSS104A	DIODE	
D104			1SS131	DIODE	
D105,106			HSS104	DIODE	
D105,106			1SS133	DIODE	
ED1			11-MT-103GK	INDICATOR TUBE	
IC1		*	UPD16311	MOS-IC	
IC2			NJM4580D-D	IC(OP AMP X2)	
IC3			LC6543H-4D68	MP-COM IC	
IC4			SAA6579	ANALOGUE IC	
IC5			NJM4565L-D	ANALOGUE IC	
IC100			LA7951	IC(AV SELECTOR)	
IC101			MC14577CP	ANALOGUE IC	
IC102		*	MB90089PF-G143	CUSTOM IC	
IC103			MM1067XD	IC(SYNC SEPARATION)	
IC104			MC74HC4053N	IC(2ch MULTIPLEXER X3)	
IC105,106			LA7951	IC(AV SELECTOR)	
IC107			PST983D-T	ANALOGUE IC	
IC107			S-806D-Z	ANALOGUE IC	
IC108		*	SC427202P	CUSTOM IC	KPYXMC
IC108		*	SC427203P	CUSTOM IC	E
IC109		*	XL24C01AP	MEMORY IC	
Q1-3			2SC2458(Y,GR)	TRANSISTOR	D
Q1-3			2SC3311A(Q,R)	TRANSISTOR	D
Q4			DTA113ZS	DIGITAL TRANSISTOR	D
Q4			UN4119	TRANSISTOR	
O5-7			DTC113ZS	DIGITAL TRANSISTOR	
O5-7			UN4219	TRANSISTOR	
Q100-102			2SC2878(B)	TRANSISTOR	D
Q103-110			2SC2003(L,K)	TRANSISTOR	
Q111			2SC2458(Y,GR)	TRANSISTOR	
Q111			2SC3311A(Q,R)	TRANSISTOR	
Q112			2SC2003(L,K)	TRANSISTOR	
Q113,114			2SD2012	TRANSISTOR	
Q113,114			2SD2061	TRANSISTOR	
Q115			2SA1048(Y,GR)	TRANSISTOR	
Q115			2SA1309A(Q,R)	TRANSISTOR	
32					
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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation
Q116,117			2SC2458(Y,GR)	TRANSISTOR	
Q116,117			2SC3311A(Q,R)	TRANSISTOR	
Q118			2SC3940A(R,S)	TRANSISTOR	
Q118			2SD863(E,F)	TRANSISTOR	
A1		*	W02-2541-05	ELECTRIC CIRCUIT MODULE	
L : Scandinavia K : USA P : Canada R : Mexico D : KR-V990D Y : PX(Far East, Hawaii) T : Europe G : Germany 9 : KR-V9080 V : AAFES(Europe) X : Australia M : Other Areas C : CHINA Δ indicates safety critical components.					

KR-V990D/V9080

SPECIFICATIONS

For U.S.A. and Canada

Rated power output during STEREO operation

120 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20 kHz with no more than 0.03 % total harmonic distortion. (FTC)

Rated power output during SURROUND operation

Front

105 watts per channel minimum RMS, both channels driven, at 8 Ω , 1kHz with no more than 0.7 % total harmonic distortion.

Center

105 minimum RMS at 8 Ω , 1kHz with no more than 0.7 % total harmonic distortion.

Rear

70 watts per channel minimum RMS, both channels driven, at 8 Ω , 1kHz with no more than 0.7 % total harmonic distortion.

Total harmonic distortion.....0.005%(1 kHz, 60W, 8 Ω)

Frequency response

LINE(CD, AUX, TAPE).....10 Hz ~ 75 kHz, + 0 dB, -3 dB

Signal to noise ratio (IHF'66)

PHONO (MM)75 dB

LINE (CD, AUX, TAPE)98 dB

Input sensitivity / impedance

PHONO (MM)2.5 mV / 47 k Ω

LINE (CD, AUX, TAPE).....200 mV / 47 k Ω

Output level / impedance

TAPE REC200 mV / 2.2 k Ω

PRE OUT (SUBWOOFER)1V / 1 k Ω (KR-V9080)

PRE OUT (FRONT, CENTER, REAR, SUBWOOFER)
.....1V / 1k Ω (KR-V990D)

Tone Control

BASS..... ± 10 dB (at 100 Hz)

TREBLE..... ± 10 dB (at 10 kHz)

LOUDNESS control

VOLUME at -30 dB level+8 dB (at 100 Hz)

DIGITAL AUDIO section (KR-V990D)

Sampling frequency.....32 kHz, 44.1 kHz, 48 kHz

Input level / impedance

Coaxial (TV / CABLE).....0.5 Vp-p / 75 Ω

VIDEO section

TELEVISION format.....NTSC

VIDEO inputs / outputs

VIDEO (composite).....1 Vp-p / 75 Ω

S-VIDEO (luminance signal).....1 Vp-p / 75 Ω

(chrominance signal)0.286 Vp-p / 75 Ω

FM tuner section

Tuning frequency range87.5 MHz ~ 108 MHz

Usable sensitivity (MONO)

.....1.2 μ V (75 Ω) / 13.2 dBf (75 kHz DEV., S/N 30 dB)

50dB quieting sensitivity

STEREO32 μ V (75 Ω) / 41.2 dBf (75 kHz DEV.)

Total harmonic distortion (1 kHz)

MONO0.6 % (65.2 dBf input)

STEREO0.7 % (65.2 dBf input)

Signal to noise ratio (1 kHz, 75 kHz DEV.)

MONO75 dB (65.2 dBf input)

STEREO68 dB (65.2 dBf input)

Selectivity (± 400 kHz).....50 dB

Stereo separation (1 kHz).....40 dB

Frequency response30 Hz ~ 15 kHz, +0.5 dB, -3.0 dB

AM tuner section

Tuning frequency range530 kHz ~ 1,700 kHz

Usable sensitivity (30% mod., S/N 20 dB)

.....16 μ V / (500 μ V / m)

Total harmonic distortion0.7 %

Signal to noise ratio (30 % mod. 1mV input)45 dB

Selectivity30 dB

GENERAL

Power consumption5.2 A

AC outlet

SWITCHED2 (total 150 W, 1.2 A max.)

Dimensions.....W : 440 mm (17 - 5 / 16")

H : 162 mm (6-3 / 8")

D : 396 mm (15 - 9 / 16")

Weight (Net).....12.8 kg (28.2 lb) KR-V9080

13.1 kg (28.9 lb) KR-V990D

Note : KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KR-V990D/V9080

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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